for all

PREMIERE ISSUE
SPRING 2020

INTERVIEW: The Challenge of Inclusion: Views from Director Abigail Wozniak

RESEARCH DIGEST: The Good Old Days? For Some, Yes

DATA DIVE: Expensive Cities vs. Expansive Cities

THE MAGAZINE OF THE OPPORTUNITY & INCLUSIVE GROWTH INSTITUTE

FEDERAL RESERVE BANK OF MINNEAPOLIS

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About the cover

Son of immigrants, marketing professional, Chicago-born, person of color, a dream manifested.

That's the story of Chukwudi (Chudi) Anyaeche, who's on our cover, and whose life and work experiences represent the challenges explored in *For All*.

His is one of the images in this inaugural issue that tells stories of people, workers, and scholars who are working toward an economy built for all. That's the mission of the Opportunity & Inclusive Growth Institute at the Federal Reserve Bank of Minneapolis, with its congressional mandate to achieve maximum employment.

"I am African American, and I am a first-generation Nigerian in the U.S." says Anyaeche, 30. "I am two sides of a coin that's not often talked about. To be African with direct cultural roots, language, and customs that are somewhat foreign to the main American culture is one thing. I understand the strife of a 'foreigner' because I've witnessed it through myself and my parents' generation."

He adds, "Another thing is to be African American, black, which is in many ways countercultural to the majority of the American population. I live my version of the minority experience. Minorities often share similar experiences, but we do not all share the exact same experience."

With his experiences, as the digital marketing manager for a global agency and a marketing consultant, he helps companies best position their products and services to all consumers. He says, "To be successful, images and messages need to be inclusive of all applicable audiences."

Anyaeche tells a story about his uncle's friend, a Nigerian lawyer who moved to the United States. His law firm wouldn't allow him to defend cases in court because of his thick African accent.

"This lawyer created brilliant arguments, but was never able to present them. It hurts when you think about it," Anyaeche says. "My uncle will often tell me that my generation—the one that grew up here in the United States, but is still connected to our Nigerian culture—he'll say we're the 'best of both worlds,' that we're his generation's shining dream, their dream manifested." ★

PHOTOS BY OLIVIA OBINEME

For All
The Magazine of the Opportunity & Inclusive Growth Institute

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WELCOME

BY NEEL KASHKARI

Why the Institute? Why this magazine?

When I moved to the Federal Reserve's Ninth District, which spans an area from Michigan's Upper Peninsula to Montana, I was struck by a disturbing paradox.

The diversity and strength of our economy are inspiring. We have a well-educated, high-performing workforce and, on average, low unemployment. Our labor force participation ranks high. Our poverty rate ranks low.

But for all its successes, the benefits of our strong economy are not experienced by all of our citizens. We have some of the nation's worst economic disparities. The difference in median annual household income between whites and African Americans is stark. In Minnesota, the region's most populous state, the gap is nearly $36,000.

Poverty is prevalent—and gaps are large—among this district's whites as well. In over half of our counties, 10 percent or more of the white population lives below the federal poverty line. Pockets of white poverty blemish rural areas in all of our district's states.

Along many dimensions, our Native American communities receive the smallest share of our bounty. For example, the unemployment rate on South Dakota's Pine Ridge reservation is three times the national rate, and median household income for American Indians there is less than half the national average for all races.

Disparity in outcomes and lack of economic opportunity know no racial, ethnic, or even geographic boundaries.

While this contrast is both stark and surprising for the heartland region I represent at the Fed, we are not alone. This is a *national* dilemma. America's world-leading economy is afflicted by glaring distributional inequalities and appears unable to provide opportunities for those in need of them.

What are the structural factors behind such disparities? In the context of global competition and ongoing technological change, how do we create a robust economy that includes all Americans? How can we build an economy that works for all?

Creating the Institute

We believe the Federal Reserve has a role in answering these questions and addressing these challenges. Congress gave us a dual mandate: to promote stable prices and maximum employment. By maximum employment, we mean an economy that has job opportunities available for all who seek work.

The traditional view among central bankers is that there's little we can—or should—do about economic opportunity and inclusive growth. But I believe we need to re-examine that assumption. We need to look beyond averages to see what effect national policies have on different groups. And perhaps we need to study whether such inequalities might be having a negative impact on growth by curbing aggregate demand and stifling human capital development.

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.

That's why we established the Opportunity & Inclusive Growth Institute. To help the Federal Reserve achieve its maximum employment mandate, our goal is to conduct world-class research to improve the economic well-being of all Americans. We have a particular focus on structural barriers that limit full participation, and we use a multidisciplinary approach.

That's where *For All* comes in. We want to share the Institute's ideas with you: our nation's policymakers; scholars and students; civic, business, and labor leaders; and educators. We hope these ideas will aid your work, moving concept to reality through meaningful policies and partnerships. ★

Since 2016, Neel Kashkari has been the president and CEO of the Federal Reserve Bank of Minneapolis. The Opportunity & Inclusive Growth Institute was founded in 2017.

UPDATE

Not just talk, but making a difference

From housing to college affordability, the Institute and its conferences BY TU-UYEN TRAN

Opportunity & Inclusive Growth Institute conferences serve as a gathering place for research and policy exchange by scholars, practitioners, lawmakers, and community leaders. And that's what the Institute did at its October 2019 fall conference, "Expanding and Diversifying Housing: Approaches and Impacts on Opportunity."

The event tackled issues such as the effect new market-rate housing has on housing costs for people at all income levels, the impact of regulations on housing supply, and the link between access to housing and improved outcomes for residents and communities.

"We were trying to talk about a focused question that people need answers to," said Institute Director Abigail Wozniak. That's the approach of all Institute conferences.

The Institute's next conference, scheduled for May 7, will tackle another pressing issue of public concern: college affordability. The big question: "Higher Ed: Who Pays?" Panelists will examine a range of funding options, from the current system where students mostly pay their own way to policies that promise free college for all.

"We care about a system that helps people find the education and training they need and get high-quality versions of that," Wozniak said. But accessibility needs to be balanced with long-run viability, she said. ★

Policymakers and practitioners shared data and challenges at the Institute's fall housing conference.

STAN WALDHAUSER

Free tuition is now part of the national conversation. For some, like Nicole-Lynn Riel of Tullahoma, Tenn., it worked. In Tennessee, community colleges are free. Riel graduated from Motlow State Community College in May 2017 without debt, worthy of a hug from her mother.

JOE BUGLEWICZ/ REDUX/ NEW YORK TIMES

An Institute policy brief summarizing the fall housing conference, along with a full agenda, is available at **www.minneapolisfed.org/institute**.

BY TU-UYEN TRAN

Every year, the Institute invites about 15 visiting scholars to join us in residence at the Minneapolis Fed. Some established, some emerging, they bring a diversity of backgrounds and interests as they examine what sorts of policies work to improve economic opportunity and inclusion, and why. Four of them talk about their work.

MISTY HEGGENESS

Principal economist/senior advisor, U.S. Census Bureau

GETTING THE CENSUS INTO THE AGE OF BIG DATA

The U.S. Census Bureau should diversify its sources of data. That's Misty Heggeness' opinion. And it's based, of course, on data.

The random surveys that the agency relies on contain a big flaw. Hard to believe, but people sometimes lie.

For example, when husbands earn less than their wives, both spouses—not just the husband—had a tendency to inflate the husband's wage and deflate the wife's, Heggeness found. IRS records, based on reports from employers, revealed their real wages.

Heggeness believes survey respondents fudged the numbers, perhaps unintentionally, to minimize differences with cultural expectations.

Historically, the Census tried to count every U.S. resident, a laborious and costly once-a-decade process. During the Great Depression, the need for up-to-date unemployment statistics forced the agency to use random sampling in noncensus years.

These surveys have since become its go-to tool. But they're so 20th century.

In the age of big data, Heggeness argues, there are more options. "The world around us today does not look like the world around us in the 1930s in terms of data and what's available," she said. "But we still conduct household surveys in that same method."

"The world around us today does not look like the world in the 1930s in terms of data and what's available. … But we still conduct household surveys in that same method."

—Misty Heggeness

One new tool could be the mountain of administrative data the IRS and other agencies gather each year.

Heggeness' latest project is understanding how data from social welfare programs, such as the Supplemental Nutrition Assistance Program, can shed more light on poverty. Some SNAP recipients, she found, would deny they received such aid in surveys, possibly because of the stigma of poverty.

With a background in social work, Heggeness has long been interested in family dynamics and poverty. In college, she worked for the Venezuelan child welfare ministry and interned at the United Nations in Chile, where she studied poverty. She said she ended up in economics because she felt she could help more people by influencing public policy, especially around families.

"The family unit is way more important than your career or job choices, when you think about it," she said, "because it exists within you for such a longer strand of time."

CHRIS STODDARD
Professor, Montana State University

A CLEARER PATH TO COLLEGE FOR NATIVE STUDENTS

Most of the land that went into the land-grant system for funding universities once belonged to Native American tribes, many of which signed treaties guaranteeing education for their members.

Chris Stoddard remembers her dismay when she heard a speaker talk about that at a 2017 Center for Indian Country Development conference at the Minneapolis Fed.

"That really resonated with me both because I work at a land-grant college and that's the group that is most underserved in our state," Stoddard said.

The sad irony? Stoddard presented data at that very conference showing Native Americans losing ground academically relative to other racial and ethnic groups.

The combination of history and current events inspired a research project looking at ways to make higher education more accessible to Native Americans, specifically with less complicated financial aid requirements and with more tribal colleges closer to students' reservations.

"As an economist, [I see] education [as] one of the areas where the younger we invest in kids, there's evidence that we have a higher return," Stoddard said. "So, if we have concerns about equity or inclusivity, education needs to be a piece of that."

Particularly in Indian Country. Her research focused on how the nation's complicated financial aid system impedes students who might be eligible for aid.

Twenty-six states offer reduced or free tuition to Native students, but those policies vary widely. In Montana, Native students can attend state universities for free. In California, they have to have attended a Bureau of Indian Education high school, and there's just one in the whole state.

"My question is, states with easy-to-understand guaranteed rights to free college for Native students, do they see better outcomes than states that don't?" she said.

Her early conclusions are that transparent scholarship policies do, indeed, modestly increase educational attainment. More importantly, they seem to improve the financial well-being of Native Americans after graduation.

Those outcomes excite her. "It's something that might impact people's ability to build assets, and that affects what they do long term," Stoddard said.

FABIAN ECKERT
Postdoctoral Associate, Princeton University

WINNERS, LOSERS, AND HOW COMMUNICATIONS TECHNOLOGY MAKES THE DIFFERENCE

While working on his Ph.D. at Yale in 2016, Fabian Eckert, out of curiosity, took a look at statistics the university kept on its outgoing class of undergraduates.

"The thing that was striking was about 54 percent of them moved to just five big cities," Eckert said; namely, Boston, Los Angeles, New York, San Francisco, and Washington, D.C.

More intriguing, the students moving to those places were inordinately going into the "skilled tradable services sector," meaning fields such as accounting and information technology.

Eckert suspected it wasn't just Yale.

In his latest research project, he found that workers from all around the country were moving to these so-called superstar cities, which offer rapidly rising wages unmatched elsewhere. *(Read about Eckert's research on page 17.)*

"That has interesting implications, we believe, for regional inequality because it means large parts of the country are increasingly drained of the most well-trained, the most well-educated workers," he said.

Previously, Eckert examined workforce changes following the industrial revolution. Unlike today's shift to a service economy, the shift to manufacturing saw factory jobs grow across the nation and not just in a few places.

What's different now is the effectiveness of communications technology. Big cities with an overwhelming advantage in skilled tradable services can compete anywhere instead of being confined to their local region.

Eckert said he's always been interested in why some places are developed and some underdeveloped. In college, he gravitated toward economics because the "analytical clarity" of numbers and equations helps explain these kinds of real-world issues.

With the coming of big data, in Eckert's view, the discipline of economics has become more vital. "It has the ability to not just use the data," he said, "but, before that, develop a theory of what should happen and what we should be looking for."

ELLORA DERENONCOURT

Postdoctoral research associate, Princeton University

WHAT HAPPENED AFTER THE GREAT MIGRATION?

In the middle of the 20th century, northern cities, such as Detroit and Chicago, were seen as the promised land for African Americans living in the Jim Crow South. This triggered what became known as the Great Migration.

Today, many of those Northern cities are seen as some of the worst places for black families. What happened? That's the question tackled in Ellora Derenoncourt's latest work.

"I try to understand how this massive population movement and the responses to it might have contributed to that decline," she said.

As a Harvard undergraduate drawn to questions of inequality, Derenoncourt majored in gender studies. She didn't know economics even considered such questions. Drawn also to science, she minored in molecular biology.

While developing models to understand how interactions between the human body and microorganisms changed over time, she tried to use such models to understand society.

When she mentioned her effort to an economist, she recalled him asking, "Have you heard of economics? This is what we do."

Now, that's what she does.

> **"It's not the soil or the air that makes the place good for kids, but rather how the local community has decided to allocate resources."**
>
> —Ellora Derenoncourt

Derenoncourt has observed interactions between black migrants and the existing Northern population change over time. As migrants found opportunities in Northern urban areas—their wages doubled on average—a wave of other migrants followed. Existing Northern residents, mostly whites, responded by moving to the suburbs, taking their resources with them. Crime rose as urban economic conditions declined, prompting cities to shift more resources to policing. Incarceration rates grew.

"I view this as a natural experiment in dramatically changing the racial composition of a city," Derenoncourt said. "The cities' responses correlate with the extent of this shock, this identity change."

But that shock was weaker and white flight less marked in cities attracting fewer migrants, such as Pittsburgh. Outcomes for black families there were better than in those larger destination cities.

For Derenoncourt, it's a lesson for policymakers who encourage families to move to opportunity.

"It's not the soil or the air that makes the place good for kids," she said, "but rather how the local community has decided to allocate resources."

2019-20 Institute Visiting Scholars

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

Lorenzo Caliendo
Professor of Economics, Yale University

Javier Cravino
Assistant Professor of Economics, University of Michigan

Morris A. Davis
Professor of Finance and Paul V. Profeta Chair of Real Estate, Rutgers University

Ellora Derenoncourt
Postdoctoral Research Associate, Princeton University

Jonathan Dingel
Associate Professor of Economics, University of Chicago Booth School of Business

Jennifer Doleac
Associate Professor of Economics, Texas A&M University

Fabian Eckert
Postdoctoral Associate, Princeton University

Misty Heggeness
Principal Economist/Senior Advisor, U.S. Census Bureau

Mark Huggett
Professor of Economics, Georgetown University

Elena Manresa
Assistant Professor, New York University

Amanda Michaud
Associate Professor, University of Western Ontario

Abdoulaye Ndiaye
Assistant Professor of Economics, NYU Stern School of Business

Derek A. Neal
William C. Norby Professor in Economics, University of Chicago

Michael Peters
Assistant Professor of Economics, Yale University

Luigi Pistaferri
Professor of Economics, Stanford University

Tommaso Porzio
Assistant Professor of Economics, Columbia Business School

Esteban Rossi-Hansberg
Theodore A. Wells '29 Professor of Economics and International Affairs, Princeton University

Chris Stoddard
Professor, Montana State University

Michela Tincani
Assistant Professor, University College London

David Wiczer
Assistant Professor of Economics, Stony Brook University

Kevin R. Williams
Associate Professor of Economics, Yale School of Management

INTERVIEW

THE VIEW FROM HERE

Abigail Wozniak talks with *For All* Managing Editor Douglas Clement about her vision for the Opportunity & Inclusive Growth Institute, what excites—and concerns—her about the field of economics, and the value of being located in the Midwest.

PHOTO BY JAKE ARMOUR

“To be effective, academic theories have to confront hard political realities, and complicated concepts have to be communicated simply and concisely,”

says Abigail Wozniak, who became the first director of the Opportunity & Inclusive Growth Institute in February 2019.

With a B.A. from the University of Chicago and Ph.D. from Harvard, she joined the faculty of the University of Notre Dame in 2005. In 2014, she took leave from that teaching position to join President Barack Obama’s Council of Economic Advisers as a senior economist, bringing much-needed expertise on labor force participation.

“While there, I learned important lessons about moving research insights into the policy arena,” she recalls. The same principles apply at the Institute, she says, where research is most valuable when it can be applied to people’s everyday lives.

Wozniak’s own scholarship has focused on migration within the United States and changes in job tenure, as well as additional topics ranging from job screening policies and racial discrimination to changes in banking compensation due to industry deregulation. Her work on U.S. geographic mobility gained wide media attention recently when the U.S. Census highlighted a shift she has documented for years.

Managing Editor Douglas Clement asked the questions.

Whither manufacturing?
Workers like Matt Mooney, here on a horizontal mill at PR Machine Works in Ontario, Ohio, wonder if they’ll ever be part once more of an economy that includes well-paying manufacturing jobs.
MADDIE MCGARVEY/REDUX/NEW YORK TIMES

Why the Institute?

The Fed’s dual mandate is to pursue price stability and maximum employment. Distributional issues have generally been considered outside its purview. Given that, why has the Minneapolis Fed created this Institute?

It’s true that distributional issues have not generally been a forefront issue for the Federal Reserve. But I would argue that’s in part because when the mandate was set down in the Humphrey-Hawkins Act of 1978, it was a reasonable assumption that expanding the economy was going to benefit people broadly. That’s what the data showed, and we’d had a multidecade experience where that was the case.

That has changed fairly dramatically. In the past several decades, we’ve experienced a major shift in that as growth has accumulated, and its benefits have been shared unevenly to people and places. There is now much more disparity in how people are faring both geographically and across skill and demographic groups in the United States.

There are reasonable questions to ask about this. In light of these facts, is the economy fully functioning for everybody? Are we truly meeting the full employment part of our mandate when we see such disparate outcomes?

A second question, which is much harder to answer, is: Does this have any impact on the functioning of the economy? Are distributional concerns connected to the types of economic performance that we experience? These are very much open research questions.

What does the Institute add to the discussion? What advantages do we have in the broader effort to address opportunity barriers?

It's important to understand that the Federal Reserve System is well aware of these issues, and researchers in our various departments around the System are thinking hard about these questions. But there hasn't been quite the same focused research effort around them that is comparable to the Fed's efforts around macroeconomics, financial market functioning, and similar areas.

So the Institute aims to serve, in part, as a clearinghouse for all of the great Fed System research that's already going on but that could benefit from being better connected.

It also gives us greater connection to the research world *beyond* the Fed. We're building stronger ties with scholars at universities, agencies, and international organizations that are also studying questions about how the economy functions for people overall.

The Minneapolis Fed has two advantages. One is energy and leadership from [President] Neel Kashkari, who cares deeply about these issues and who was excited about trying something new within the structure of the Federal Reserve System to create a home here for the Institute.

A second advantage is that the Minneapolis Fed has a long, well-developed history of building out a research community between the Fed and academia. We have a very long partnership with the University of Minnesota, of course, but we have deep connections to researchers at other universities as well.

Now, I don't at all want to suggest that other Reserve Banks don't have that to varying degrees, but I think we've been very successful here at building cross-institution relationships. We hope to leverage that into an even broader set of relationships, potentially moving into fields of social science beyond economics that can address these questions—again, about how is the economy performing for everyone? How do folks experience that, and what do they need for greater welfare?

This Fed has such a great track record of building strong research connections outside its own walls. So that's the second reason to have us here in Minneapolis.

I would argue that a third reason is that it's important to have a balanced perspective on these questions. To some extent, the Midwest is a unique place for that balance in the U.S. right now. It's not irrelevant that we're in the middle of the country.

Broader perspectives

You've just described the network of researchers the Institute is building. Would you tell us more about the visiting scholar program, soon to be in its fourth cohort?

Other Reserve Banks host visitors from academic institutions to spend time with Fed researchers, talk about projects, and share what they're working on. The visiting scholar program here at the Institute expands this considerably. Several things are unique to us. We have an open application process. We work hard to recruit folks who are doing frontier research close to the Institute mission areas, but we welcome applications from all scholars, and we have an open review process for that.

Second, we're aiming to draw in a much broader range of people than have traditionally connected with Fed Research departments. We have yet to host scholars from outside of economics, but that's a real goal for the 2020-21 class of scholars. We want to bring in a broader set of perspectives and, importantly, figure out how to make it a productive time for both visitors and people here. It can be very challenging to have productive conversations across academic fields, but we all agree that they're extremely important.

We have some advantages that will help us figure out how to do that. We're able to fund scholars who come here to visit for a period of time, allowing them to set aside other obligations for a while. That frees them up to have some of these conversations and hopefully generate new ideas for how to investigate these questions.

Housing, opportunity, and inclusive growth

In the vision you laid out last year for the Institute, you mentioned the program of conferences that you host twice a year. The most recent of these focused on housing. Could you tell us about it? How is housing connected to issues of opportunity and inclusive growth?

The conference—which was co-organized with the Brookings Institution's Future of the Middle Class Initiative—was designed to answer, to the degree possible, some specific questions.

The first: How might you expand housing access in a city? How to do that is a very difficult question. And there are important voices that doubt whether it can be done without an extremely top-down, command-economy approach.

A second question is, Why would you want to do that? Why would we need to facilitate housing access in some cities relative to others?

The answer to the second question is, in essence, what makes this an *Institute* conference, which is that there's now a growing body of research documenting that economic

Connecting housing to opportunity. That was the focus of the Institute's fall conference with our partner, the Brookings Institution's Future of the Middle Class Initiative. Scholars, government officials, and housing advocates from across the nation gathered.
STAN WALDHAUSER

activity over the past several decades has been reorganized across [geographic] space. This isn't news to anybody, really, but we are working very hard as a profession to understand why this happened, and then also to understand the consequences of that.

If economic activity has been reorganized across space, we have to think about whether we have a housing infrastructure that's adequate for it. It means some cities where opportunity has expanded might need to expand their housing infrastructure. That's important for linking workers to jobs. It's important for linking families to wage growth and to quality infrastructure.

There's a whole other set of challenges that goes along with cities that have *not* experienced this growth and opportunity. On this, I'll highlight the work of the Boston Fed, which held a conference examining these regional disparities and thinking about what we might do about those, which is a related but also important question.

Our focus was: Suppose we need to grow housing infrastructure in a specific area. How do we do that? What kinds of benefits to folks will that provide? Those are the questions that our October 2019 Institute conference was designed around.

We worked very hard to make sure the panel sessions were genuine discussions in which people answered questions from moderators, from each other, and from participants. A question ends with a question mark, so there should be an answer, even if the answer is, "I don't know." We've prepared a summary of the conference research, available on our website.

A number of points of consensus emerged. One point is that while it's a complicated issue, we *do* have clear ideas about how to expand housing infrastructure that will improve access for a broad population, and that such housing is important for connecting people to growing opportunity. That's the conference in a nutshell.

The value of being in the Midwest

You mentioned earlier the importance of having a balanced perspective on these issues, and you said, "It's not irrelevant that we're in the middle of the country." What did you mean by that?

Living in the Midwest, you experience the full diversity of how economic change occurs and how different population groups experience that change. Just thinking about housing, our conference topic, people often use the example of San Francisco as a booming economy, so people should move there to improve their prospects.

But my personal favorite examples are Columbus, Ohio, and Cleveland, Ohio. Columbus has grown tremendously, and Cleveland has experienced a flat trajectory of employment and population over the past several decades. So it's

> **"This Fed has such a great track record of building strong research connections outside its own walls. … It's not irrelevant that we're in the middle of the country."**

not that *no* cities in the Midwest are expanding the opportunity that they have. That's definitely happening. But it's almost as difficult for folks to think about changing location two to three hours away from family, from the services and neighborhoods that they're used to.

I think being in the middle of the country is valuable for the way much of the discussion happens, especially the tendency to consider the middle of the country a bit of an afterthought and think that the coasts just have to figure out how to take everybody in. To anyone who lives here, that's clearly not at all the case. Having the Institute in the Midwest grounds the discussion with that reality.

A "nonjudgmental approach to human behavior"

Why did you become an economist? What excites you about this field?

You know, it's important for me to reflect on that question—What excites me about economics?—because the field has gone through a lot of very difficult conversations in the past 12 to 24 months about problems within the profession. It's been a short amount of time, and we've had so many conversations that I never thought we would. Even just five years ago, I couldn't foresee the field discussing questions about lack of diversity, a hostile environment toward many, and the like.

So, many of us have asked ourselves exactly that question: Why are we economists?

For me, the answer is that, first of all, I appreciate the combination of theory and data. Theory to me is like philosophy. You have to develop an intuition about what people are trying to do.

“Economics places the individual at the center of deciding what is best for them personally and behaving accordingly.”

Why do you, as an economist, think that? Does it make sense? Can you explain that to other people? In short, you need to have a framework for why you think behavior is what it is. I like the interplay between that framework and the data, assessing the theory against data. Economics does that really well.

Also, economics places the individual at the center of deciding what is best for them personally and behaving accordingly. It attributes a lot of autonomy to individuals. Economists rarely think that they know for sure what’s best for somebody else.

That’s an admirable stance, and it’s important in the world we live in, that everyone pause and ask, “Do I know what’s best for somebody else, or are they actually pretty good at figuring out what’s best for themselves?” It is an importantly nonjudgmental approach to human behavior to say, “I’m going to assume you know what’s best for you.” And economics takes that pretty seriously.

There definitely are challenges to that ideal. Behavioral economics is something to take seriously, and occasionally my papers reflect that behavioral explanations might be

Working and studying
Francina Townes, 18, worked as a part-time hairdresser while attending Woodlawn High School in Baltimore.
STEPHANIE KEITH/REUTERS

right. Maybe people aren't using full information. Maybe they aren't able to fully digest all of the options in front of them. Those are very real phenomena.

But at the end of the day, we economists think people are trying to do their best for themselves. That's an important perspective.

Do you recall when you first became interested in the field, first thought that economics might be a valuable way to understand human behavior?

Well, I guess the true story of how I ended up being an economist starts when I was in high school. At the time, in the late '80s and early '90s, the U.S. was struggling economically against Japan. There was a narrative about us getting crushed by Japan. "They're so much better at manufacturing. Their schools are better. Their economic growth is enormous." And we were struggling.

I was a high school student in Green Bay, Wisconsin, and we didn't have a particularly aggressive economics curriculum. We didn't have separate courses on it. But we all heard this narrative about Japan's powerful economy and our weak economy, and it shaped how people behaved.

And I thought, well, I can go study this. I'm deeply interested in how we resolve these issues. It just seemed like a fascinating set of questions. The honest truth is, I didn't know any more than that this was an interesting set of questions. If I had known what it actually entailed, I might've been too afraid to try!

But I got into a college with a good economics program and got through that. And then went to graduate school; again, without a very detailed idea of what I was getting into. But, you know, just coming back to that set of questions was really important.

I found the approach in economics appealing. I don't think everyone does. And I wouldn't say that it's the only angle we need to have on these questions. You know, economists tend to say, "I like economics because economics is the best way to understand the world." I don't want to suggest that. But for me, I've always liked the approach that it takes to the questions.

But I also think it's essential to draw from other disciplines to come up with a more complete story on these questions.

The profession's problems

You referred earlier to questions that are being asked now about the economics profession that weren't asked five years ago. I'd like to come back to that. As you know, women are underrepresented in the discipline, especially at the highest academic levels. That's even more the case for minorities.

The American Economic Association just released results of a survey of members in which some refer to a "hostile environment" within the profession.

What's your reaction to those findings? Is this something that you have faced as a woman in economics? And what can be done about it?

First, I should say that I'm really happy that the AEA did the survey. It's probably fair to say they should've done it a long time ago. There have been a number of useful conversations about how that professional governing body is set up. For example, the AEA president serves for one year, and it's largely an accolade. That person is not in a position to change that organization. People are thinking about that harder now. So I'm glad they did the survey. I think they should have done it earlier. And I believe we'll see even more of those discussions.

But it's important to recognize the limits of that professional organization. Personally, I would like to see a much more serious approach from universities and employing institutions.

I believe that women in many academic departments have had negative interactions. Economics has a problem, and it needs to be better.

> “I believe that women in many academic departments have had negative interactions. Economics has a problem, and it needs to be better.”

Is it something that you have faced?

Yes. I think every woman has. And I think every person of color and every person who has not been reared in a Ph.D.-holding family has faced these interactions.

It's not rare. It's not something I talk a lot about, but I certainly understand. I at least feel that I understand what people are going through. It's hard to talk about that in a coherent way for me. I still don't have a good way to summarize everything that's happened in the past two years.

What can be done to improve the field in this regard?

First of all, let me say that I'm super excited about the Institute as a place to try to do better. The Institute is pretty much a blank slate. We have access to a great amount of talent. We are housed in an institution that takes these workplace issues more seriously than many institutions that employ Ph.D. holders.

We have a great opportunity to lead by example. My hope is that in growing our scholars' network and, to some extent, growing the number of full-time Institute economists, we have a real opportunity to show that you can hire women, you can have women run things, you can hire people of color into intellectual leadership positions. In short, you can have something that looks more representative than many academic departments do.

This diversity is not going to be served up in an institution's job application inbox. We all need to make more of an effort to network within the profession, with people who look different and are working on different things. But it's very possible. I am really excited about that.

In addition to pushing continuously on inclusion, we have to recognize that there are also bad actors who don't get sanctioned appropriately.

To build on your inclusion efforts and make them last, an institution has to send a very strong message when there's an instance of bad behavior. That gets everybody to sit up and take notice, and to think a bit harder about what they're doing.

Looking ahead

Let's close by talking about what the Institute has achieved so far. You've just made very clear that one thing you've sought to do at the Institute is make it an example of inclusive growth in economics.

Could you elaborate on that, and share other thoughts about what the Institute has accomplished and where it's heading?

Well, I would argue that our scholars' cohorts could be a model for the economics profession. People of color have, I believe, been represented at the Institute more than they are in the profession, in every cohort. And this approach was in place when I came on—early leadership on this from Mark Wright, Neel Kashkari, and Alessandra Fogli made it happen. We've had women well-represented too, better than in the profession as a whole.

We've been thinking more creatively about how to engage with scholars in a way that's diverse and inclusive writ large. By that I mean pulling from institutions that are not just the top five major research institutions. We're reaching out to different types of places than we normally hear from to include a broader range of scholars. We're hoping to potentially engage with students still working on their Ph.D.s, especially junior or early career economists all the way through the discipline.

We've also been able to create opportunities for our staff economists to interact with scholars that they never would cross paths with otherwise, and that's been valuable for both.

So the first thing we've achieved is to set the tone and establish a culture where inclusion and broad thinking are expected and the norm. And that hasn't been easy. It's much easier to bring in economists who have lots of overlap with people in the Research department. But to the great credit of people in the Research department here, they've been willing to open their doors to people from outside who are doing pretty different things. That culture has been established, and that's really important.

I also believe our reputation is increasingly established. Not everyone knows our exact name, I will admit [laughter]. We have a long name. But it's less and less often that I reach out to someone and they have no idea that the Institute is here, that it exists. Particularly within the economics profession, it is increasingly well-established. And that's actually been a pleasant surprise because it can take a long time to move things in academia. This Institute has moved relatively fast, and that's testament to the great foundational efforts that were in place before I got here.

The next step is to expand that reputation in research circles with a broader set of approaches. We have a few openings on our academic Board of Advisors, and I'm hoping to

pull in different types of scholars that way. That's important for bringing in visiting scholars from outside of economics and making this all fit together. So establishing that reputation has been important.

We're also learning a lot about outreach. Along with our expanding reputation, we've drawn a great number of excellent research papers into our working papers series. So we're starting to reflect a body of new work that is important for these bigger questions of just how the economy is functioning for everyone, and what are major distributional considerations that we should know about.

We now need to make that much more accessible. Many folks don't want to engage with a 60-page academic paper—in some cases, that includes academics. So an important next step is to have more ways for people to connect with the information that we're generating here. ★

Institute Director and labor economist Abigail Wozniak's research focuses on geographic mobility of the workforce. Read more about that in the full *For All* interview at minneapolisfed.org/for-all.

Leading by example

Minneapolis Fed Monetary Advisor and Assistant Director for Inequality Research Alessandra Fogli mentors emerging women scholars in the male-dominated discipline. Together with Marina Azzimonti of Stony Brook University and Veronica Guerrieri of the University of Chicago, she launched the First Women in Macro Conference in 2018, a high-profile academic conference, bringing together senior and junior women economists. It's now an annual event.

NATE RYAN

BY DOUGLAS CLEMENT

World-class research can be lengthy and complex. Here, we present the key findings, methods, and policy implications of four compelling studies by Opportunity & Inclusive Growth Institute visiting scholars and Fed economists. These examples represent a fraction of our growing body of work.

ILLUSTRATIONS BY BRETT RYDER

Superstars in the Age of Information

Lower communication costs enable high-skill workers, firms, and cities to grow richer, leaving others behind

The powerful rise in U.S. income and wealth inequality over the past 40 years has fractured American culture, society, and politics. Schisms are apparent geographically, too, with growing differences between urban centers and rural communities; coastal regions and the heartland. While the phenomena are frequently documented, causes are still being debated.

New research from the Opportunity & Inclusive Growth Institute (Institute Working Paper 25) suggests that "service industries that are highly skill-intensive and widely traded internationally [are] key to understanding these changes." The researchers, Fabian Eckert, Sharat Ganapati, and Conor Walsh, refer to these as "skilled tradable services"—industries devoted to information-based functions that rely heavily on communication.

Skilled tradable services (STS) include management consulting, finance, information technology and services, and company management, and they have assumed an outsized importance in the country's earnings distribution, with faster wage growth than all other sectors despite relatively slow employment growth.

Skills and stars

That highly skilled workers would earn high wages is unsurprising to economists, who are well-versed in the theory of skill-biased technological change (SBTC) as the source of rising incomes for college-educated individuals. SBTC is the idea that technological change during the 20th and 21st centuries has increased demand for educated workers, while reducing demand for those with less schooling. The rising college pay premium since the 1980s in the aggregate U.S. economy is well-documented.

But elaborating on an idea developed in an earlier paper on inequality, local labor markets, and "spatial fragmentation" of production processes, Eckert, an Institute visiting scholar, worked with Ganapati and Walsh to add another element: declining communication costs. Inspired by economist Sherwin Rosen's landmark 1981 article, "The Economics of Superstars," the three economists suggest that STS workers have become earnings superstars because, as Rosen

STUDY AUTHORS

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showed, individuals with great talent can gain access to larger markets and incomes as communication costs drop. Competitors in that same market whose talent is just slightly less (or less popular) will lose market share to the star. Lower-skilled rivals make much less money than superstars like like Beyoncé, whose talent is shared instantly across world stages.

Alfred Marshall anticipated the idea in the 1890s, noting that the telegraph enabled leading entrepreneurs to eclipse rivals. They "amass a large fortune with a rapidity hitherto unknown … [due to] the development of new facilities for communication by which, [having] once attained a commanding position, [they] are enabled to apply their constructive or speculative genius to undertakings vaster, and extending over a wider area, than ever before."

> "New information technologies have drastically reduced these frictions, allowing the most productive workers, regions, and firms to expand their reach and earn disproportionate returns."

Workers in STS specialize in products that are nonrival: Their ideas can be used by an infinite number of people without diminishing their value to any user—a recipe, an algorithm, a technological innovation. As communication costs drop—particularly because of the internet—workers with valuable information skills can gain access to wider markets just as YouTube enables divas to reach huge audiences instantly. "Swedish nightingale" Jenny Lind, a renowned opera star, couldn't do that in 1860, but Renée Fleming can today.

By marrying these ideas—skill bias and declining communication costs—the economists find an explanation for growing inequality of several types. "Payroll has been reallocated to the most productive workers, labor markets, and firms, while employment—consistent with superstar theories of wage growth—has not," they write. At the heart of it: less communication friction that limits knowledge transmission. "We argue that new information technologies have drastically reduced these frictions, allowing the most productive workers, regions, and firms to expand their reach and earn disproportionate returns."

Four facts

The economists begin by documenting four facts about STS in the United States:

1) From 1980 to 2015, wage growth in skilled tradable services outpaced that in all other sectors; employment growth was moderate. See Figures 1a and 1b.

2) In 2010, most top earners in the U.S. worked in STS, not the case in 1980.

3) Since 1980, STS wages have grown fastest in the densest labor markets, without increasing employment share.

4) Since 1980, wages have grown fastest for the highest-paying STS firms, without increases in average employment.

These realities illustrate some of the divisions that have fragmented labor markets among workers, places, and firms. How well does the theory explain these facts?

The model mechanism

The economists' model embodies the idea that skilled services that are easily distributed (traded) will reap great returns. The services this applies to are nonrival by virtue of being information-based. An industrial designer or software engineer based in one city can communicate the same concept or service to others without reducing its value. This means that a highly skilled, highly paid worker in one location can instruct less-skilled, lower-paid work-

Wage growth in skilled tradable services outpaced other sectors, but job growth didn't.

ers in multiple locations in application of a company's service or manufacture of its product. As communication costs decline, the skilled worker's market expands and, with superstar dynamics, small productive advantages become huge earnings advantages. "The key insight," write the economists, "is that declining communication costs across regions … amplify the non-rivalry of knowledge work."

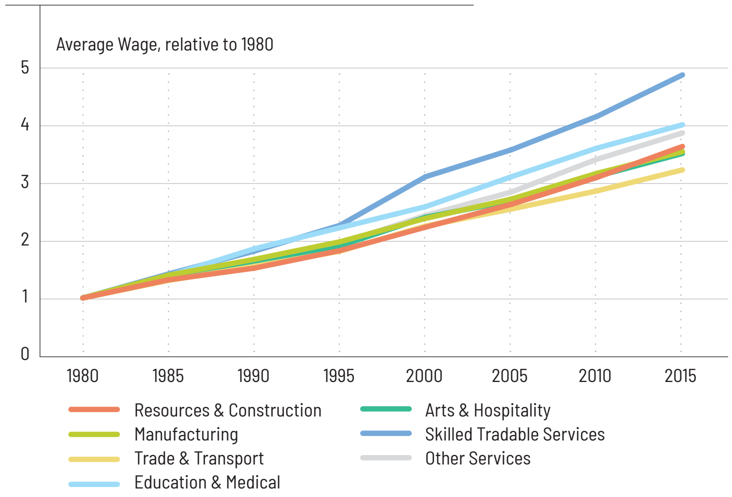
The economists then verify some of their model's key predictions in census data and show that, statistically, STS wage growth can account fully for the faster wage growth in "superstar cities"—New York, Boston, Washington D.C., San Francisco, and Los Angeles—the nation's densest—and for 30 percent of the overall increase in wage inequality between the top 10 percent and the median wage earner. It's a convincing demonstration that STS plays a prominent role in the rise of inequality not only among workers but also across places.

New challenges

The term "service industries" usually brings to mind food services, home health assistance, and other work that involves assisting or caring for others. These industries employ people who have relatively little education and work locally. Eckert, Ganapati, and Walsh shed light on the other end of the service spectrum, workers who are highly educated, uniquely skilled, and operating globally. That focus sheds a bright light on the growth in U.S. income inequality in recent decades.

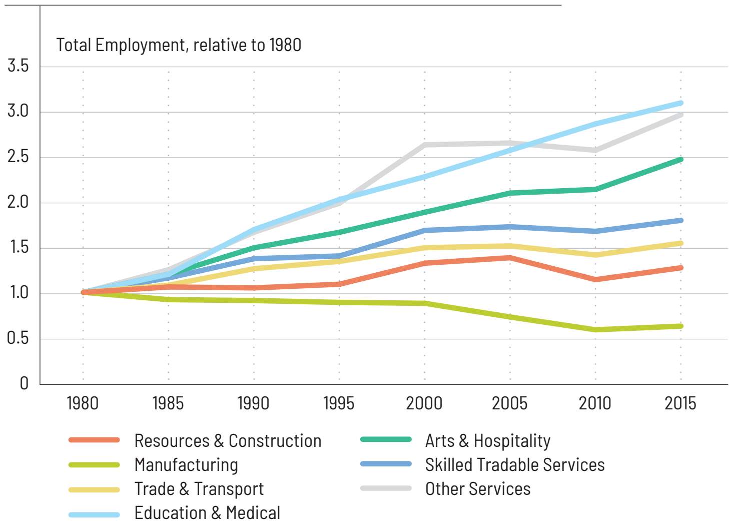
Superstar dynamics in skilled tradable services help explain deepening divisions in the economic rewards received by workers, companies, and locations. And as the economists observe, "As these services overtake traditional sectors like manufacturing as the propulsive force in the U.S. economy, the exclusive nature of their growth poses new challenges to policymakers." ★

1a Wage Growth by Sector, 1980-2015



Note: Average nominal wages by sector, relative to 1980
Source: Authors' calculations using data from the Longitudinal Business Database

1b Employment Growth by Sector, 1980-2015



Note: Employment by sector relative to 1980
Source: Authors' calculations using data from the Longitudinal Business Database

TAKEAWAYS

- Since 1980, highly skilled service industries reaped disproportionate economic rewards
- "Superstar cities" fuel inequality
- Growth of skilled tradable services explains wage gaps

The Wealth Gap and the Race Between Stocks and Homes

Economic inequality increased after the financial crisis as the value of equities outpaced homes

Most research on long-term U.S. inequality focuses on income; relatively little examines wealth, largely due to lack of good asset data. But a June 2018 working paper from the Opportunity & Inclusive Growth Institute addresses that imbalance with a new data set developed from historical surveys, and it shows that wealth—specifically, ownership of stocks and homes—has been a central force behind U.S. inequality trends for 70 years.

The study's authors analyze decades of data on earnings, savings, home values, equity holdings and other assets, along with related demographics, to develop a nuanced portrait of American inequality. Their analysis begins by confirming the findings of other scholars: increased income polarization since the 1970s, with particular damage to the relative position of the middle class. It also sheds new light on economic inequality between blacks and whites by quantifying vast differences in wealth as well as income, and no progress in diminishing those gaps.

Perhaps the study's most novel contribution, however, is in revealing the singular role of household portfolio composition—ownership of different asset types—in determining inequality trends. Because the primary source of middle-class American wealth is homeownership, and the main asset holding of the top 10 percent is equity, the relative prices of the two assets have set the path for wealth distribution and driven a wedge between the evolution of income and wealth.

In brief, as home prices climbed from 1950 until the mid-2000s, middle-class *wealth* held its own relative to upper-class wealth even as middle-class *incomes* stagnated. But after the financial crisis, the stock market's quick recovery and slow turnaround of housing prices meant soaring wealth inequality that even exceeded the last decade's climb in income inequality.

Income and wealth polarization

"Income and Wealth Inequality in America, 1949-2016" (Institute Working Paper 9), by Institute visiting scholar Moritz Kuhn, Moritz Schularick, and Ulrike I. Steins, substantiates the dramatic rise in U.S. income inequality from 1970 to the late 1980s, with the share of total income earned by the bottom 50 percent dropping from 21.6 percent to 16.2 percent, while the top 10 percent share climbed from 30.7 percent to 39.9 percent. By 2016, these

STUDY AUTHORS

MORITZ KUHN, MORITZ SCHULARICK, and ULRIKE I. STEINS of the University of Bonn are co-authors of this Institute working paper.

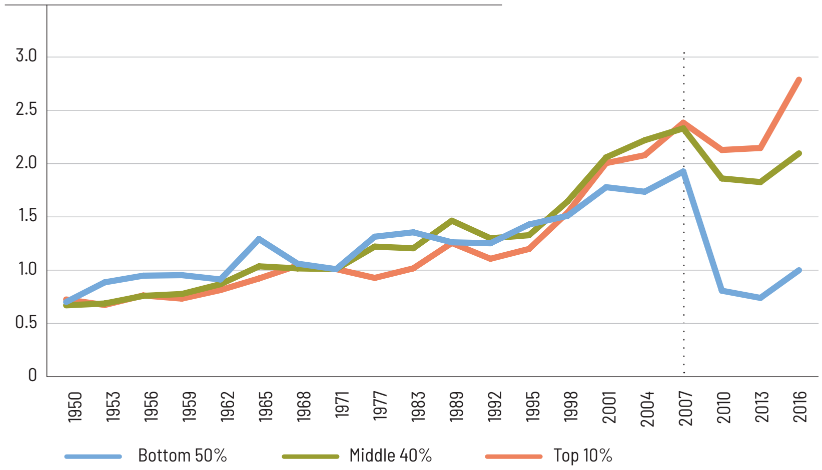
shares had diverged further, down to 14.5 percent for the bottom half and up to 47.6 percent for the top 10th. (More technically, the Gini coefficient rose from 0.43 to 0.53.)

For wealth, the story is more surprising. For 50 years postwar, wealth rose largely in parallel across the distribution, keeping wealth inequality in check. This changed in the financial crisis, when wealth of the bottom 90 percent plummeted. By contrast, the top 10 percent's wealth share soared after the crisis. As a consequence, the decade after the financial crisis saw a stronger increase in wealth concentration than the six decades after World War II.

Racial inequality: "The overall summary is bleak"

The demographic detail and 70-year span of the new database also permitted close analysis of racial inequality, pre- and post-civil rights eras. The picture is discouraging. Income disparities are as large now as in 1950, with black household income still just half that of white households.

Growth in Household Wealth, 1950-2016



Note: Lines show growth rates for different wealth groups, with blue for the bottom 50 percent, green for the middle class (50th percentile to 90th percentile), and orange for the top 10 percent. All time series are indexed to 1 in 1971. Dotted line indicates financial crisis.
Source: Authors' calculations

> "Over seven decades, next to no progress has been made in closing the white-black income gap. The racial wealth gap is equally persistent."

The racial gap in wealth is even wider, and similarly stagnant. The median black household has less than 11 percent the wealth of the median white household (about $15,000 versus $140,000 in 2016 prices). The economists also find that the financial crisis hit black households particularly hard.

"The overall summary is bleak," they write. "Over seven decades, next to no progress has been made in closing the black-white income gap. The racial wealth gap is equally persistent. ... The typical black household remains poorer than 80% of white households."

The race between stocks and homes

To explain the divergent trends in income and wealth inequality before the crisis, the economists draw on a key strength of the database: It includes both *income* and *wealth* information, household-by-household, and 70 years of balance sheets with detailed portfolio composition.

With this, they find that the bottom 50 percent now holds little or negative wealth (that is, debt), and its share dropped from 3 percent of total wealth in 1950 to 1.2 percent in 2016.

For the upper half, portfolio diversification determines wealth trends. The data show that homes are the primary asset for households between the 50th and the 90th percentile, while the upper 10th also owns a large share of equities. Therefore, middle-class household wealth is strongly exposed to house price fluctuation, and the top 10 percent is more sensitive to stock market variations.

This difference in asset holdings explains how, prior to the crisis, middle-class households experienced rising wealth in parallel with the top 10th, even though their real incomes stagnated and savings were negligible. But the picture changed dramatically post-crisis. In "a race between the stock market and the housing market," the economists write, the richest 10 percent, by virtue of a climbing stock market, enjoyed soaring post-crisis wealth, while average household wealth largely stagnated. (See figure.)

"When house prices collapsed in the 2008 crisis," the economists conclude, the "leveraged portfolio position of the middle class brought about substantial wealth losses, while the quick rebound in stock markets boosted wealth at the top. Relative price changes between houses and equities after 2007 have produced the largest spike in wealth inequality in postwar American history." ★

TAKEAWAYS

- Owning stocks versus homes explains post-crisis increase in wealth inequality
- Top 10 percent enjoy rising wealth from continued stock market growth
- Bottom 50 percent hold decades-low level of wealth

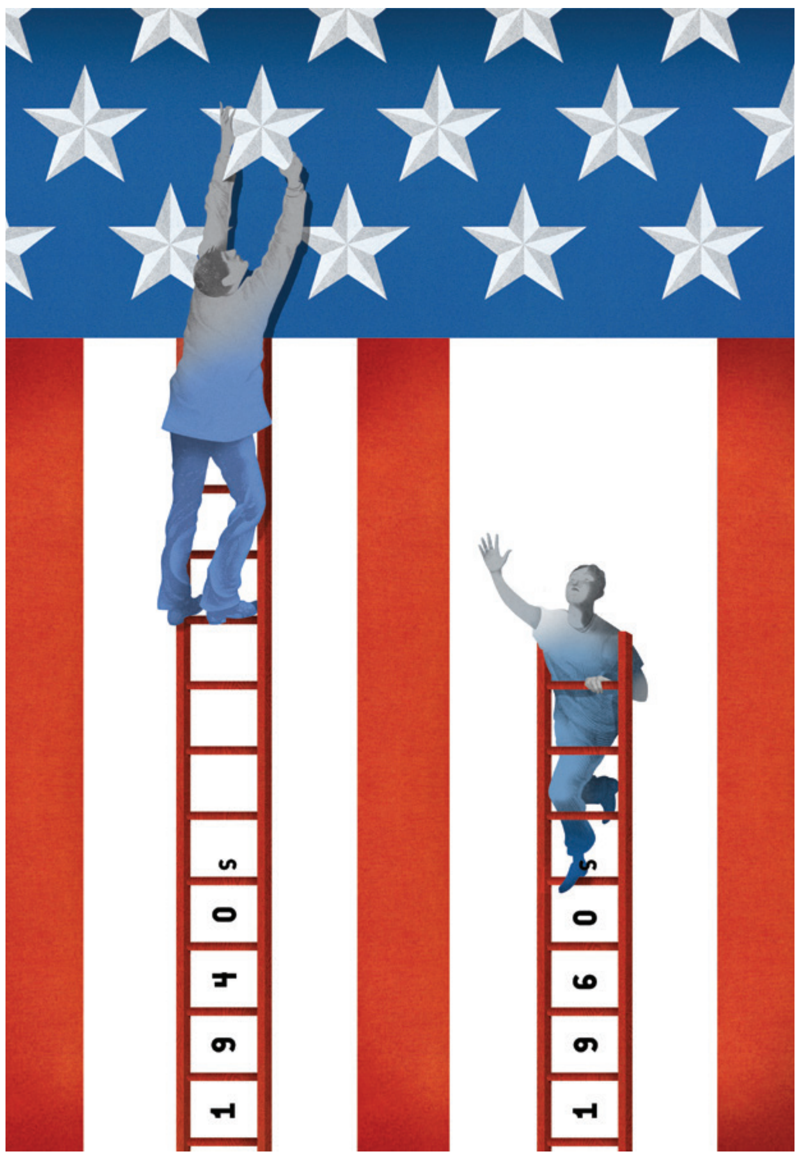
The Good Old Days? For Some, Yes

Less-educated Americans born in the 1960s fare much worse than those born 20 years earlier due to wage changes, shorter life expectancy, and higher medical costs

The declining prospects of America’s working class are widely discussed and hotly debated these days, from the anthems of Bruce Springsteen to the “deaths of despair” research of Princeton economists Anne Case and Angus Deaton.

A paper from the Opportunity & Inclusive Growth Institute explores this downhill trend for less-educated men and women by comparing life outcomes of two cohorts born 20 years apart. It shows that for the more recent generation, the American dream has undeniably vanished.

“The Lost Ones: The Opportunities and Outcomes of Non-College-Educated Americans Born in the 1960s” (Institute Working Paper 19) compares wages, medical expenses, and life expectancy for non-college-educated white men, women, and couples born in the decade around 1940 with circumstances for those born 20 years later—a cohort 49-to-58 years old as of 2014. The paper’s authors, Institute senior scholar Mariacristina De Nardi and colleagues Margherita Borella and Fang Yang, then analyze how those differences have affected the two cohorts’ labor market outcomes and will affect their lives in retirement. Their goal, they write, “is to better measure these important changes in the lifetime opportunities... and to uncover their effects on the labor supply,



savings, and welfare of a relatively recent birth cohort."

In brief, they find a profound deterioration in well-being. Accounting for inflation, wages have declined for non-college-educated white men. And while wages have increased for women, it's only because their human capital (education and experience) has drastically increased over this time period.

> "'The Lost Ones' compares life outcomes for less-educated white men and women of two cohorts born 20 years apart. For the recent generation, the American dream has undeniably vanished."

These men and women—comprising 60 percent of their age group—are also expected to experience much higher out-of-pocket medical expenses in retirement and large decreases in life expectancy compared with their earlier counterparts (see figures). They "would have been much better off if they had faced the corresponding lifetime opportunities of the 1940s birth cohort."

Borella, De Nardi, and Yang focus on whites for methodological reasons—the need for a sufficiently large and homogeneous data set—not from a sense that they alone suffer bad times. "White non-college-educated Americans are hardly the only disadvantaged population losing ground," they write, citing research on stagnant wages and dramatic declines in employment rates for less-skilled black men, along with rising incarceration rates and persistent black-white skill gaps.

Generational change, for the worse

To arrive at these conclusions, the researchers take three steps. First, analyze existing data sets in a novel way. Second, compare generations. And third, build a "life-cycle" model of labor supply and savings with single and married people. Using this model, the economists analyze the impact that the later generation's worse wage schedules, medical expenses, and life expectancy profiles have had on their labor supply, savings, and welfare.

The data being analyzed refer to people who are white, have less than 16 years of education, and were born between 1936 and 1945. The comparison is made with the cohort of whites with the same educational achievements but born 20 years later, between 1956 and 1965. The data show that things got significantly worse. Men's wages dropped by 9 percent (inflation-adjusted.) Women's were 7 percent higher but, again, only because of higher human capital. Out-of-pocket medical expenses after age 66 increase by 82 percent. Still worse, life expectancy at middle age declines by 1.7 years for men and 1.1 years for women. "All of these changes are thus large," observe the economists, "and have the potential to substantially affect behavior and welfare."

Impact of change

The economists test their theoretical model by seeing if it can generate estimates close to actual data. It does. Model estimates closely match data on labor market participation, hours worked, and asset accumulation for all four demographic groups—single men, single women, married men, and married women—of the 1960s cohort over their entire working lives.

The final step is using the model to measure the impact these changes have had on the well-being of the 1960s generation.

They compare actual labor force participation, hours worked, and savings for the 1960s cohort with the outcomes generated if that cohort had enjoyed the higher wages, lower health expenses, and longer lifespans of the older generation. They first analyze one input at a time—wages, health costs, lifespans—and then all three together.

The effects of these changes on labor supply and savings vary by demographic group (male, female, single, married)

STUDY AUTHORS

MARIACRISTINA DE NARDI, Thomas Sargent Professor, University of Minnesota, and an Institute consultant. Her co-authors on this working paper are MARGHERITA BORELLA of the University of Turin and FANG YANG of Louisiana State University.

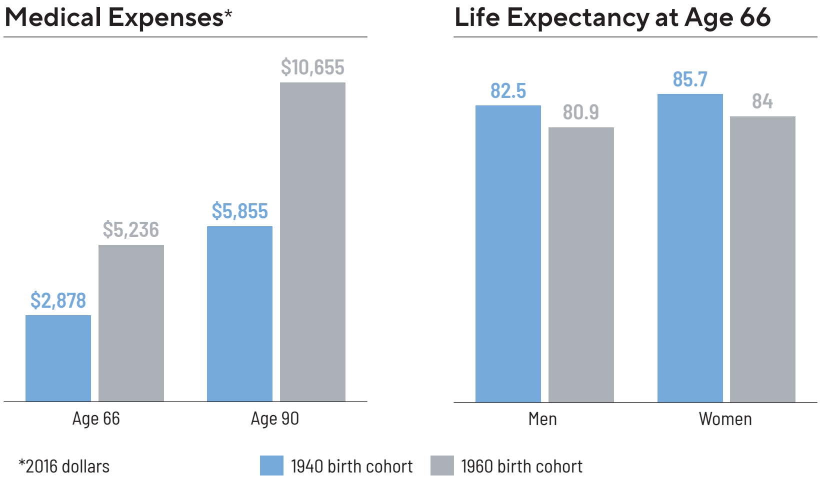
but, in most cases, the impacts are substantial. If just wages had stayed at 1940s schedules, for example, while health expenses and lifespans were kept at 1960s levels, married couples would have had the most different labor market outcomes, with husbands staying in the labor force much longer and wives having lower participation rates and working fewer hours because of the much higher wages for men in the 1940s.

Changing just health expenses or just lifespans would have altered labor outcomes less significantly. "The decrease in life expectancy mainly reduced retirement savings," the economists observe, "but the expected increase in out-of-pocket medical expenses increased them by more."

Loss of welfare

The final question is the impact on overall welfare, a measurement the economists make by estimating the lump-sum compensation an individual would require to be indifferent between the 1940s and 1960s wages, medical expenses, and health and survival dynamics. The sums are large: $126,000 for single men, $44,000 for single women, and $132,000 for couples. Lower wages account for most of the welfare loss, between 47 percent and 58 percent, depending on demographic group. Shorter life expectancies explain 26 percent to 34 percent of the decrease in well-being, and higher medical expenses account for the rest.

These deep welfare losses, along with the associated effects on labor supply, health care spending, and asset accumulation, contrast starkly with the American economy's strong aggregate growth, indicating that this large segment of the population has not enjoyed the fruits of that broad economic health. By illuminating that difference, this research can serve well in any effort to, in the economists' words, "evaluate to what extent current government policies attenuate these kind of shocks and whether we should re-design some policies to reduce their impacts." ★



Source: Health and Retirement Study, University of Michigan

> "Accounting for inflation, wages have declined. These men and women are expected to experience much higher medical expenses and large decreases in life expectancy."

TAKEAWAYS

- Recent generations of less-educated fare poorly
- Wages, life expectancy have declined while medical expenses increased
- Benefits of strong U.S. economy bypassed the less-educated

California Green Rush?

Easing urban land-use regulations could shift population and decrease carbon emissions

STUDY AUTHORS

MARK COLAS, assistant professor of economics at the University of Oregon, was an Institute visiting scholar in 2017-18. His co-author on this working paper is JOHN M. MOREHOUSE, a University of Oregon Ph.D. candidate.

Climate change is global, but each individual's contribution to it is local, shaped not only by personal lifestyle choices—big house or small, car or bike, incandescent or LED—but by where one lives. Residents of cities with hot summers or cold winters generate more carbon emissions to cool or heat their homes than those who live in temperate locations.

Power plants themselves have different carbon footprints—coal burners generate more emissions than hydroelectric plants—so people in cities that rely on one or the other have a disparate impact on climate change. The median household in Memphis, say, is responsible for over three times the carbon emissions as one in Honolulu.

In research from the Opportunity & Inclusive Growth Institute, visiting scholar Mark Colas, with University of Oregon colleague John M. Morehouse, quantifies the effect that local land-use restrictions have on residential carbon emissions at the national level (Institute Working Paper 20).

Restrictions tend to raise housing costs and thereby discourage in-migration. This might inadvertently encourage people to move to locations that have higher carbon emissions. But is this effect empirically significant? How powerfully do land-use regulations influence where people choose to live, and thus their carbon emissions? Does this interaction have national consequences?

It turns out that the impact is large. Colas and Morehouse estimate that if California land-use restrictions were eased to the national median, people would move to California because of declining housing prices, leading over time to a 68 percent population increase. The nation would consume 1.1 percent less natural gas and 1.7 percent less electricity.

"Overall," write the economists, "this leads to a 2.3% decrease in national carbon emissions," driven by lower energy use and more electricity coming from cleaner power plants. Moreover, average wages would rise for both skilled and unskilled workers because California cities have high productivity levels. In sum, relaxing land-use regulations would lead to a nearly 5 percent increase in national "carbon efficiency" (output-to-emissions).

Updating the national regulation-emissions map

To arrive at these findings, Colas and Morehouse compile data on household locations, income, rents, and energy expenditures of over 5 million U.S. households from 2012 to 2016. They also gather state-level prices to calculate energy usage and collect data on power plant locations, emissions, and output across the country. They pool this with a measure of urban policy restrictiveness on land development, the Wharton Land-Use Regulation Index. A higher Wharton index means more stringent regulations and higher land development costs.

The nation ranges widely on estimated emissions. Oxnard, Calif., for example, has annual emissions of just over 11,000 pounds per household. Omaha, nearly 30,000 pounds.

The economists then apply this data set to a model that allows for cities to vary by plant technology and energy demand, and for households to vary by city choice and consumption levels of housing, electricity, natural gas, and fuel oil. Cities also vary in restrictiveness of land-use regulations.

Easing restrictions

Their first hypothetical test is easing California land-use restrictions to the Wharton index median. The estimated impact is substantial. In the long run, Americans would go West in droves—a green rush in which California city populations would increase 68 percent through an influx from around the nation.

National use of natural gas, electricity, and fuel oil would decline by 1.1 percent, 1.7 percent, and 5.6 percent, respectively, as population shifted to temperate climates with efficient power generators. National carbon emissions would drop by 2.3 percent.

And because California cities have high productivity levels, median income levels nationally would rise by 1 percent (and twice that for skilled workers).

The second experiment is to set land-use restrictions in *all* U.S. cities to the national median. National migration would be even more dramatic, from the South and Midwest to the West and Northeast. Population in the Northeast would double to 36 percent of the national total while dropping in the Midwest and South. California's cities would increase to about a 12 percent share of the national total from their current 10 percent.

Natural gas use would increase slightly, electricity drop, and fuel oil rise significantly. Emissions would drop by a full 8 percent.

A carbon tax

The third theoretical test is imposing a carbon tax of $31 per ton. A carbon tax can reduce emissions by encouraging households to consume less energy wherever they currently live and by inducing people to relocate to cities that use less energy due to temperate climate, efficient power plants, or both.

Reduction is even more dramatic, a 12.3 percent decrease in national emissions. Population would shift to the West and Northeast from the South and Midwest. Relative to leveling land-use restrictions, however, a carbon tax would cause minor population moves.

The household tax burden would fall most heavily on households in the Midwest and South, and more lightly on the energy-efficient West and Northeast. It would fall harder on households with children, more education, married couples, and minorities. "Overall," write the economists, "these results suggest that a carbon tax may have significant distribution effects."

Conclusion

Colas and Morehouse's exploration of emissions and policy is an important step in designing climate change policy, providing empirical estimates of how easing land-use regulations or imposing carbon taxes would affect carbon emissions, population distribution, income levels, and economic welfare. Their results suggest that such policies would significantly reduce emissions, by between 2 percent and 12 percent. ★

TAKEAWAYS ↗↗

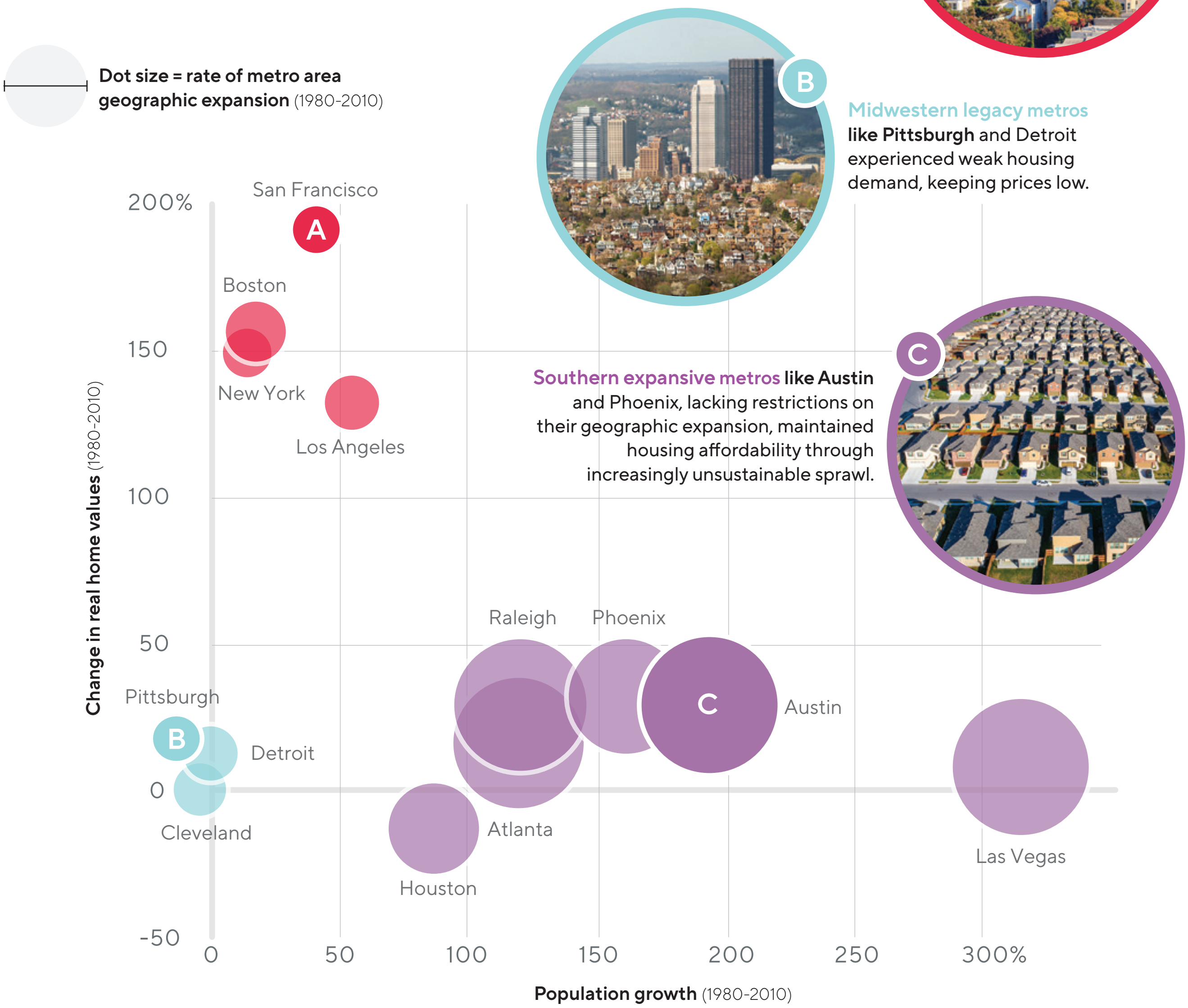
- Land-use regulations raise housing prices, discourage population influx
- Cities with extreme climates, "dirtier" power plants generate higher carbon emissions
- Easing land-use regulations would shift population to "green" cities, lowering national carbon use and emissions

To read Douglas Clement's full "California Green Rush" Research Digest, go to minneapolisfed.org/for-all.

HOUSING AS A DRIVER OF CITIES' POLARIZATION

In a presentation at the Opportunity & Inclusive Growth Institute's fall 2019 housing conference, economist Issi Romem described how economic change and differing attitudes towards sprawl since the 1970s have generated three distinct housing trends in U.S. metro areas.

Expensive coastal metros like San Francisco and Boston—hemmed in by geography and restrictive zoning—saw housing prices soar and population growth curtailed.



INFOGRAPHIC BY SMART HIVE

WHAT WE KNOW

→ Diverging housing price levels cause socioeconomic sorting across the three metro types.

→ Those moving to expensive cities tend to have higher income and education than those who leave and are also more likely to rent after the move.

→ People moving to expansive Southern cities tend to earn incomes similar to those who leave and also have similar rates of homeownership.

→ Those who move into legacy cities tend to earn less than those who leave, but are more likely on average to live in owner-occupied homes.

→ In the long run, housing costs—and policies—will shape which industries remain viable in different metro areas.

Learn more about this study at **minneapolisfed.org/for-all**. And learn more about all of Issi Romem's research at **metrosight.com**.

FEDERAL RESERVE BANK OF MINNEAPOLIS

The Federal Reserve Bank of Minneapolis is home to the Opportunity & Inclusive Growth Institute and *For All* magazine. With headquarters in downtown Minneapolis and a Branch in Helena, Mont., the Minneapolis Fed has a long history of research designed to inform policymakers. Among the Minneapolis Fed's 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. The Bank is also home to the Center for Indian Country Development, the Federal Reserve System's research and resource center for Native economic development.

One of 12 Federal Reserve Banks, the Minneapolis Fed examines banks in the Ninth District (stretching from the Upper Peninsula of Michigan to Montana), monitors the Upper Midwest's regional economy to help determine the nation's monetary policy, and strives to promote economic well-being.

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FINAL THOUGHT

"A lot of debate on inequality is focused on the top 1 percent .... Stagnation of median wages, for males especially, deserves more attention."

Fatih Guvenen, Curtis L. Carlson Professor of Economics, University of Minnesota, at the Opportunity & Inclusive Growth Institute's spring 2019 conference

STAN WALDHAUSER

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