



FINANCE AND DEVELOPMENT

DECEMBER 2020

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Brave New World

Future of jobs and opportunity

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Window for Change

IT HAS BEEN SAID that there are decades where nothing happens, and there are weeks where decades happen. This could not be more apt today. The pandemic—which has disrupted the world in profound ways—has prompted countries to roll out significant policy changes that might otherwise have taken years. It has also sped the arrival of technologies and new ways of working and learning, moving us almost overnight into a new era.

For many professionals, working from home has become easier. Yet for many others—particularly workers in hospitality and tourism, delivery, retail, and basic care—deep economic scars are already forming. Among them: lost jobs, a widening skills gap, increasing inequality, and a toll on mental health. Women, youth, and the less skilled are disproportionately affected—and could face the beginning of many lost years. Those unlucky enough to start careers in a recession may experience lower earnings for 10 to 15 years after graduation, or longer.

This issue, produced in partnership with the World Economic Forum, looks at the future of jobs and economic opportunity. It explores what can be done to shape a better tomorrow—one that puts people at the center of policy.

Reforms must focus on creating higher-quality jobs for more people in more places, says Martin Sandbu. The IMF's Kristalina Georgieva highlights the importance of investing in women and young people and enhancing education and training to open up opportunities. Heather Boushey and Lawrence Mishel argue for policies that strengthen worker power. Other contributors urge improved social protection and social insurance, especially for gig and informal workers; increased health care and childcare support; better designed progressive taxation to address income inequality; and greater investment in digital access and green technologies.

In the deepest crises are born great opportunities. This is such a moment—a window for radical change, not to be squandered. In weeks to come, decades can happen. **FD**

GITA BHATT, editor-in-chief



ON THE COVER

We cannot, and should not, go back to the economy of yesterday, our December 2020 issue cautions. Illustrator Davide Bonazzi's cover imagines the greener, fairer, technologically smarter world that could emerge from the current crisis, if we play our cards right.

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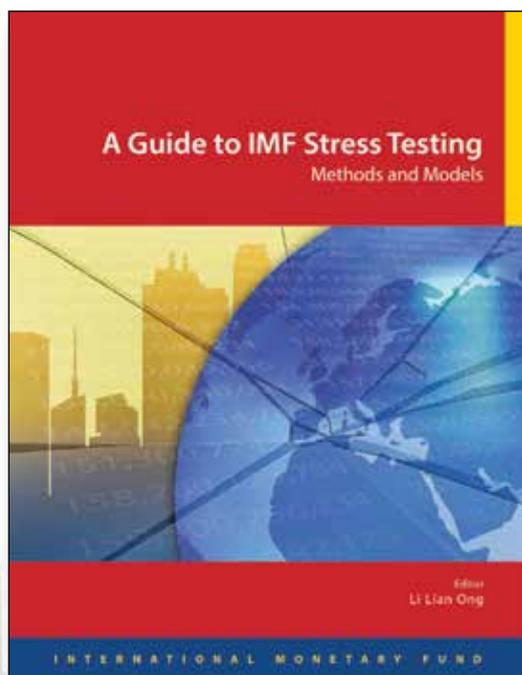
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FSC FPO

Financial Stress Testing



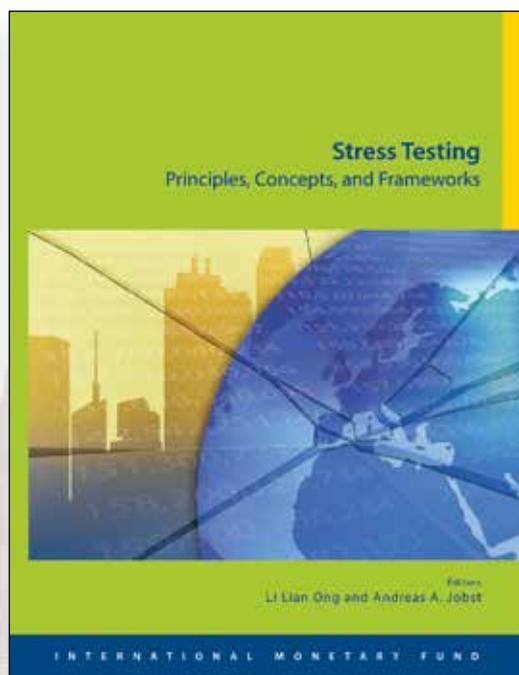
A Guide to IMF Stress Testing: Methods and Models

Li Lian Ong

The IMF has had a unique involvement in the stress testing of financial systems. This comprehensive volume pulls together the stress-testing methods and models—the hardware—developed by IMF staff, some in partnership with colleagues from other organizations. A stress test toolkit and programs are available online at: www.elibrary.imf.org/page/stress-test-toolkit

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Stress Testing: Principles, Concepts, and Frameworks

Li Lian Ong and Andreas A. Jobst

Stress testing is a widely accepted tool for financial surveillance, supervision, and risk management. This new book presents the IMF staff's analyses and applications of the stress-testing "software"—the best practices, principles, and frameworks that are critical for the credible and consistent implementation of the stress-testing "hardware." While the selection of appropriate methods or models is critical for the usefulness and credibility of stress tests, such exercises must be undertaken within a coherent and all-inclusive framework.

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The Post-Pandemic **BRAVE** New World

Policymakers' choices during this disruption could shape their economies for decades to come

Martin Sandbu

The pandemic struck a global economy that already was profoundly unsustainable—socially, environmentally, even intellectually.

Over the past four decades almost all advanced economies have become more polarized, with increasingly unequal income distributions. Developing economies lifted billions of people out of poverty, but in the process they, too, created their own rising inequalities and social tensions.

The global economy's lopsided growth has brought us to the edge of catastrophic climate change.

And political upheavals in one country after another meant the world could not expect to go on as before. This pressure for change was reflected in economic policy thinking that was rapidly challenging old orthodoxies about public spending, central banking, and government intervention in the economy.

Then the coronavirus brought the most dramatic societal disruption and economic collapse in peacetime memory. Greater policy shifts took place in days or weeks than the most ambitious politicians could have dreamed of achieving in a lifetime. The enormity of the crisis made unintended radicals out of many political leaders as they intervened drastically in economic activity and took the risks of both workers and businesses onto the state's shoulders on a massive scale.

We are now far enough past the initial onslaught to lift our gaze to the future, even if the pandemic's course remains uncertain. It is time to consider how current policy choices will—and how they should—shape the long-term path for the world's economies. This year's transformation of both the economic and political landscapes—what economic risks and rewards we can realistically foresee and what is newly considered politically possible—means



that things will never be the same. But how they will change is wide open, and policy choices made over the next few years will make a big difference to whether the post-COVID world favors broadly shared prosperity more than the status quo ante.

Sharpened societal contradictions

The fundamental economic fact about the pandemic is that it intensified existing societal fault lines. The preexisting policy debates about them have intensified too.

Concerns about rising *inequality* have been given new fuel because lockdowns entailed much greater hardship for people in jobs that could not be done from home. White-collar jobs, especially knowledge-intensive ones, already were increasingly well rewarded relative to manual jobs—in terms of pay, but also job security and predictability. Workers in most manual service jobs—hospitality and tourism, delivery, retail, and basic care—had long been getting a rougher deal, which worsened in the pandemic. Because they require physical proximity, these are the jobs most exposed to either lockdowns (when judged nonessential) or contagion (when essential). Women and the young are hit particularly hard because they are overrepresented in many of these sectors, as documented in the IMF’s latest *World Economic Outlook*.

A second, related economic impact of the pandemic is an accentuation of the policy challenge from *gig work* and other *irregular labor*. It was already clear that in rich countries, nonconventional forms of employment and contracting were fitting ever less well with established welfare states. Informality continues to be an obstacle to developing safety nets in poorer countries (see Back to Basics in this issue of F&D). The lockdowns demonstrated the shortcomings of even well-developed state bureaucracies in reaching workers outside regular jobs. Politics and legislation often progressed at lightning speed to establish income-support programs, but the support sometimes failed to reach its target because governments could not identify the workers most in need.

Large, informal labor markets have long been a feature of poor economies. But the growth of a “precarariat” of service workers—those with insecure employment and income and ill served by public services—is a principal reason why shockingly many people in the world’s richest countries have

exceedingly thin financial buffers. Workers in sectors relying on low-paid and precarious work, hit disproportionately hard by the pandemic, were also less equipped to absorb such a shock to begin with.

Moreover, even unprecedented government steps to protect incomes have generally been insufficient to offset the disproportionate damage to those already worse off. As a result, the pandemic is likely not only to have reinforced chronic economic polarization, but to have intensified public awareness of it as a problem.

The economic fallout from the pandemic interacts with the underlying pressures of inequality in a third, less obvious, way. The sudden shift to remote working amounts to a steep change in business use of digital technology that is bound to affect production patterns and the distribution of economic surplus. While these effects may be hard to foresee, it is plausible that they could increase the productivity of those who already have the most “modern” jobs, intensive in cognitive skills and suitable for remote working. That could exacerbate the bifurcation of good and bad jobs.

The pandemic also played into political rifts over economic geography. Most obviously, it raised new questions over globalization—how interconnected countries can cope with contagion that spreads with travelers; with production disruptions from lockdowns in a global supply-chain manufacturing hub, as in Wuhan in January 2020; and with a sudden scramble for imported medical equipment.

Less obvious are the pandemic’s geographic effects within countries. Regional inequality has been one of the most toxic forms of economic polarization: starting about 1980, the post–World War II process of regional catch-up stagnated or even reversed as industrial jobs across national territories gave way to a concentration of knowledge services in their biggest cities. Now, while COVID-19 has spread in leading and declining cities alike, the economic disruption has temporarily changed how and where white-collar work is carried out—and could potentially be used by policymakers to alter permanently the geographic distribution of prosperity.

What is to be done?

For all these reasons, the pandemic is forcing policymakers to confront problems neglected for too

long. But if things cannot go on as they were, the question remains, What policies should be implemented to change them and with what goals in mind? This is no easy question. The problems highlighted by the coronavirus crisis have defeated well-meaning attempts at improvement before.

But two things seem clear. The first is that the *nature and quality of work are central*, and any reform program must focus on creating higher-quality jobs for more people in more places. The second is that it *must be big in scope and scale*—something with ambition and motivational power comparable to the New Deal or the Marshall Plan.

Work must be central because it is where many of the chronic and pandemic-related economic challenges intersect: inequality, precarity, and the new informality; geographic disparity; and technological change. A much greater availability of high-quality jobs is also the main common yardstick to measure the success or otherwise of a comprehensive range of policies.

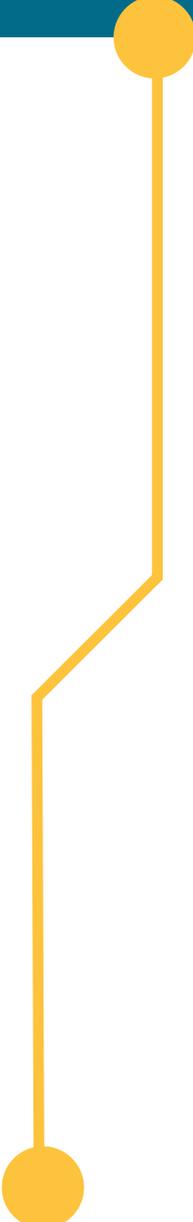
What these policies should be is, of course, the big question, and one that ought to be democratically anchored. In my recent book *The Economics of Belonging*, I argue for a program that

- *Embraces productivity growth and the technological upgrade of jobs by demanding more from employers.* It is when unproductive jobs give way to more productive ones that work becomes safer, more pleasant, and better paid. In the European Nordic economies, wage egalitarianism has spurred productivity growth by making low-productivity labor uneconomical and incentivizing investment in productivity-enhancing capital. This approach can be adopted elsewhere to combat chronic low-paid, low-productivity work in lightly and rigidly regulated labor markets alike (both the United Kingdom and France have their precariats, for example) and to direct the reallocation about to take place as COVID-19 makes some activities unviable. Concretely, this means ambitious minimum wage increases and strong and strictly enforced workplace standards.
- *Produces a high-pressure economy* with strong demand growth to give productive firms reason to expand and ensure new jobs appear as bad jobs disappear. High demand pressure is necessary to benefit those on the margins of the labor

market—the young, ill-educated, and minorities—who tend to be fired first in a recession and hired last in an upturn. Concretely, this means *running macroeconomic policy “hot,”* calibrating monetary and fiscal policies to keep demand always slightly ahead of the economy’s capacity, to encourage companies to pull more people into the labor force and seek productivity-enhancing improvements. This is admittedly more easily done in large, rich economies, especially reserve currency issuers—which also puts the onus on their policymakers to lead global demand growth.

But if things cannot go on as they were, the question remains, What policies should be implemented to change them and with what goals in mind?

- *Lowers the cost of leaving a bad job and finding a better one.* This requires a panoply of policies, including greater spending on skills, well-resourced active labor market policies, and social security reform to untie benefits from jobs. Changing jobs and upgrading skills are costly for workers, and are not undertaken if people have low buffers to live on between jobs. Direct and unconditional payments, including a basic income or negative income tax to avoid low-income traps in the benefit system, are ultimately the only way to overcome these obstacles. They are also the most effective and quickest way to improve living conditions for the worst off, especially when more targeted approaches are unable in practice to reach those most in need.
- *Reforms tax systems to encourage high-quality work.* This means shifting taxes away from labor to encourage job-switching and hiring. The tax revenue loss must be made up elsewhere. This requires that a greater tax burden fall on capital, ideally through a net wealth tax, which is more productivity-friendly than other capital taxes. In addition, carbon taxes should be significantly increased to reallocate labor and capital



The challenge our economies face is so big that incremental policies are unlikely to achieve much—and are easy for vested interests to defeat.

in a green direction. The proceeds should be redistributed as a “carbon fee and dividend” or “carbon checks.” Finally, international corporate taxation must be fixed to level the competitive playing field between multinational and locally employing firms, and to allow governments more room for maneuver in taxing capital.

- *Reforms financial systems and tax rules* to be less favorable to debt and more favorable to equity-type funding, which is both more conducive to productivity growth and restores an appropriate balance of risk between workers and investors. Governments should convert COVID-related rescue loans to companies that struggle to repay into tradable equity stakes.
- *Incentivizes a broader geographic spread of the highest-value-added jobs.* The goal of policy should be to make more places host a critical mass of high-paying jobs. This is easier said than done, but at a minimum requires greater investment in transport and IT connectivity, local infrastructure, and amenities to make places attractive to live in, and policies to make financing available for new ventures in declining areas. The change to remote working provides a promising opportunity to use tax or regulatory incentives to shift good jobs from large central cities to more remote locations.

Reinterpreting the world

All of this may seem a tall order. The devil will be in the details: implementing large-scale reforms depends on solving myriad trade-offs and logistical difficulties at the micro level. But the challenge our economies face is so big that incremental policies are unlikely to achieve much—and are easy for vested interests to defeat. So any program with a hope of success must be of great scale and broad scope. Given that enormous policy changes have already happened, that no longer seems unrealistic.

The old macroeconomic rules have been thrown out. Politicians who not long ago intoned about fiscal responsibility preside over record-breaking deficits,

actively choosing to open the budgetary floodgates to sustain people’s incomes and companies’ liquidity.

The structure of public spending has also undergone a big shift, especially in countries with Spartan welfare states to begin with. The United Kingdom, in a matter of months, designed a European-style wage subsidy from scratch. The United States allowed people to lose their jobs, but sharply boosted unemployment benefits. And every advanced economy has put in place extraordinarily generous loan programs for businesses, in some cases taking all credit risk off banks’ hands. In many countries, the state is back in a big way, and this shift is qualitative as well as quantitative: governments are taking on risks previously borne by the private sector.

Some of these policy shifts are unprecedented. Others are an acceleration of preexisting trends. A reset of several fundamental premises for central bank policymaking had already emerged from the sluggish recovery after the global financial crisis. Central banks largely, if grudgingly, accepted mounting evidence that low interest rates are here to stay. The Federal Reserve, in particular, has embraced a greater tolerance for “running the economy hot,” no longer worrying that inflation might threaten as soon as unemployment comes down. Both shifts in thinking have helped central banks act early and comprehensively to sustain demand, cheap funding, and financial market functioning in the pandemic—a dovish shift in central bank thinking that is likely to continue.

Then there is the significant change in technology used by companies, which suggests that new remote work practices are here to stay. Surveys suggest that many companies plan to retain at least some work-from-home practices even after the pandemic. In any case, the technological and organizational know-how employers have had no choice but to accumulate at breakneck speed this year cannot be unlearned. It almost certainly will create permanent change in how people work.

And this holds not just for employers, but for consumption patterns. The pickup in online retail and substitution of online connectivity for physical travel are unlikely ever to be fully reversed, even if a vaccine eliminates the virus. A dramatic restructuring of the economy is underway.

These changes are easier to respond to in richer than in poorer economies. But there are opportunities even for lower-income economies. If nothing else, policy revolutions in rich countries will be a learning experience for the world and ought to affect the policy conditions attached to financial aid and debt relief for the poorest economies. And some developments provide direct opportunities for emerging economies: the embrace of remote working improves the prospect of attracting outsourced high-value-added service jobs.

Revolutionary questions

Ordinarily, policymakers can at most hope to tweak their governing systems. Mostly their job is to keep things running. At rare moments, however, leaders' decisions help reset the course of their societies for a long time. This is such a moment.

Leaders now face three big questions about how they envisage their countries' economic future.

- The first is: *reallocation or restoration?* National economies have been knocked out of joint, leaving companies and workers uncertain about the future—whether a job viable before the pandemic will be again, whether a line of business is worth investing in or should be wound down. The nudge—or not—of policy can make a big difference to whether capital and labor shift into new activities or the allocation of economies' resources retains its precrisis pattern. Even if COVID-19 makes some activities permanently less profitable, reallocation may not happen—or not to the necessary extent—without policies to promote it, because of the risk and uncertainty involved. Even if the existing economic model is broken, a new one will not build itself.
- The second, more stirring, question is, “*building back better or back to business?*” There is a big difference between using the disruption to build something different and wishing to get things back on track as fast as possible. These two orientations lead to different policy

considerations—roughly, whether to keep resource reallocation to the minimum necessitated by the pandemic or use the disruption to reengineer the economy more fundamentally. Building back better will demand more of businesses and people—for example, by doubling down on climate change goals or raising pay and work standards, using the dislocation to move to a different path. The alternative “back to business” approach will aim to make as minimal, quick, and painless as possible any adjustment economic agents have to undertake.

- The final question is *whether states are ready to once again embrace planning*—using intervention to consciously shape the economy over time. Having a policy goal of sectoral reallocation, or regional convergence, or “building back better” presupposes some confidence in the ability of the state to coordinate and steer private sector behavior and a willingness to establish a desired destination. The loss of both confidence and will caused planning to fall out of fashion in the 1980s. As a result most governments today are neither used to strategic planning nor all that good at it.

Yet there are signs that planning is back. Climate change, geopolitical upheavals, rapid technological transformations, and now the pandemic have increased pressure on politicians to lead their economies to a better place, rather than simply freeing the animal spirits of the private sector. Even before COVID-19, economics and economic policy advice were becoming increasingly sympathetic to more active intervention to make economies work better.

Most leaders vow to “build back better” and to oversee a reallocation of resources to more COVID-safe, greener, and more productive activities. At least implicitly this entails a commitment to a more active and strategic state role in the economy than most have engaged in recently. Whether many states have the capability, or their leaders the temperament, to govern the economy more actively and more strategically than before, we are about to find out. [FD](#)

MARTIN SANDBU is the *Financial Times*' European economics commentator and author of *The Economics of Belonging*.



PHOTO: IMF/MIM HAUGHTON

No Going Back

Investing in policies for people will help shape a better economy for the postcrisis world

Kristalina Georgieva

AS THE PANDEMIC RESURGES across many nations, it is only natural to wish for a swift return to a pre-pandemic world. If only we could quickly lift the clouds of uncertainty, frustration, and despair. The virus has taken more than a million lives, and hundreds of millions more have been altered forever by rising poverty, massive job losses, and interruptions to education. We now face the risk of a lost generation, especially in the developing world.

But we cannot—and should not—go back to the economy of yesterday, with its slow growth, low productivity, high inequality, and worsening climate crisis. We must look ahead to a future where we do things differently. There are two massive, urgent tasks: to fight the worst economic crisis since the Great Depression *and* to start building forward toward a greener, more inclusive, and more dynamic world.

We can draw inspiration from those who have made a difference during the pandemic. This includes health care workers, delivery drivers, and

janitorial workers—many of whom have difficulty making ends meet despite their hard work and the risks they are taking for others.

To help these workers and all their people, governments have provided about \$12 trillion in fiscal lifelines to households and firms. Extraordinary monetary policy actions have maintained the flow of credit, helping millions of firms stay in business. This is a foundation for progress, but even greater challenges may lie ahead.

A major aim is to create a better economy for everyone. Let me highlight some key priorities to help get us there: *invest in women* and *young people* and *in education and skills programs* that will open opportunities and boost productivity. I call these “policies for people.”

Empower women

The crisis has been exceptionally difficult for women: their jobs are more concentrated in hard-hit or risky sectors, and experience shows that girls in developing economies are less likely to return to school after a pandemic. Women are also more likely to work in the informal economy, so government support may not reach them. And during this crisis, women are doing 15 more hours a week of unpaid housework than men in several advanced economies.

In other words, decades of progress toward gender equality are now at risk. This requires a powerful response, based on well-designed policies and robust data. For example, putting increased childcare support into budgets gives more women the chance to work. A push for financial inclusion would help women better manage shocks and take advantage of opportunities for entrepreneurship.

The IMF supports our member countries in implementing gender-responsive fiscal policies that work, including gender budgeting. Think of legal mandates for equal pay, collaboration with civil society, and putting finance ministries in the lead on this vital issue, as Canada has done. Our research shows that accelerating gender equality can be a global game changer. For the most unequal countries, closing the gender gap could increase GDP by an average of 35 percent.

Invest in young people

Several of the challenges facing women, such as building skills and gaining formal employment, affect young people more broadly. Younger workers and those without a university education are significantly

less likely to be in jobs where remote work is an option, so they are at greater risk of unemployment. Meanwhile, the crisis has disrupted the education of over 1 billion students, which could severely affect their lifetime income and living standards.

The IMF and World Bank recently took an in-depth look at how the crisis is harming access to opportunity and highlighted policies that can help. In many countries, for example, the design of labor market regulations can be improved by protecting *workers* through stronger social safety nets rather than trying to protect *specific jobs* that may go away.

Countries can pursue policies to improve educational attainment, such as Brazil's Bolsa Familia program, which provides cash benefits to families whose children attend school.

Making it easier and cheaper to start a business, as Jordan is doing, is especially helpful to young people, as are well-designed programs to provide job training and assist young people in searching for jobs. In many countries, there is also room for private sector wage subsidies that incentivize employers to hire and train unemployed youth.

Provide access to opportunity

People-focused policies can boost productivity, especially if investments enhance the abilities of workers in informal and low-skill jobs. These workers already face lower wages, less job security, and little capacity to save for a rainy day. When the pandemic hit, most could not work remotely and were coping with weak safety nets, crowded housing conditions, and limited access to good health care.

As with other vulnerable groups, if each country invests in realizing the full potential of these workers, the entire society will benefit. There is huge scope for retraining and re-skilling, especially for the work we must do to save our planet. Think of reforestation and conservation and making buildings more energy efficient.

Or think of increasing access to the internet and financial services. About 1.7 billion adults are still unbanked, and roughly twice as many are not online. Fixing this requires the physical infrastructure of towers and fiber-optic networks, as well as privacy and consumer protection laws.

Financial inclusion also requires government action to improve financial literacy, remove legal barriers to property ownership, and provide proof of identity—so that people can open bank accounts and access digital financial services.

How to afford it

We know what is required, but how do we pay for it? Improving the efficiency of spending can yield better outcomes for people even without expanding existing budget envelopes.

Despite significant challenges, Liberia, Malawi, Nepal, and the Solomon Islands achieved sizable increases in tax revenues over a recent decade—between 7 and 20 percentage points of GDP. Closing loopholes and boosting the efficiency of tax systems offer opportunities for progress in many countries.

We must look ahead to a future where we do things differently.

For low-income developing countries, grants and concessional lending will remain essential to supporting investments to enhance people's skills and boost productivity. For countries with moderate debt levels, borrowing may be an option, especially if they can take advantage of relatively cheap funding conditions. Egypt has recently completed two bond issuances totaling \$5.8 billion, \$750 million of which was for a green bond—the first in the Middle East—focusing on antipollution and renewable energy projects.

The IMF is focused on working with our members to help them develop and afford policies for people. Our economic advice and capacity building support increased and improved social spending, domestic revenue mobilization, and more efficient and progressive taxation.

We have also provided financing at unprecedented speed and scale: more than \$100 billion to 81 countries, including 48 low-income nations. And we are considering options to further adapt our lending toolkit so that we can continue to serve our membership in the period ahead.

As the global economy embarks on its long ascent from the depths of the crisis, one thing is clear: we will not go back to where we were. If we are to overcome the crisis and shape the recovery, we must move forward with a renewed sense of purpose and solidarity—with *all* people. Together, we can achieve a more prosperous and more resilient world. **FD**

KRISTALINA GEORGIEVA is managing director of the IMF.

A woman with long dark hair and glasses is shown in profile, looking towards the right. She is in front of a computer monitor displaying various data visualizations, including bar charts and line graphs. The background is a blurred blue and green light pattern. The entire scene is framed by a dashed orange border. A small white circle with an orange outline is located on the right side of the border.

DISPARITIES IN REAL TIME

Online job posting analysis shows the extent of the pandemic's damage, especially to women and youth

Wenjie Chen

High-frequency data are critical when it comes to tracking the rapid economic destruction and disruption wrought by the COVID-19 pandemic. This information has also helped confirm, nearly in real time, the unequal impact of the crisis on particular populations, especially women.

Weekly and sometimes daily snapshots of human behavior—restaurant reservations, pedestrian traffic, mobile phone data, airport checkpoint volume, retail activity, and even nighttime images of Earth from space—are now closely scrutinized. Embedded within these high-frequency data are clues that may paint a picture of the impact of the crisis on the outlook for women, young people, and minorities and possibly foretell changes for years to come. The use of real-time data for decision-making was growing rapidly even before the pandemic, mostly because of progress in digitalization and the emergence of big data. The COVID-19 pandemic, however, has brought its usefulness into sharp relief.

The pandemic decimated the labor market at record speed. Official data reported on a quarterly or even monthly basis have struggled to keep pace with a wave of unemployment unseen since the Great Depression. Labor market data produced during the current crisis can paint a confusing picture of the job market, as compilers of official data have struggled to account for furlough programs and part-time jobs and have thus disseminated the data with cautions about high levels of uncertainty.

Our new study uses real-time data supplied by Indeed, one of the major providers of worldwide employment-related search engines for job listings. This gives us one-of-a-kind insight into the behavior of virtually all employers that post online job advertisements. The main advantage of Indeed's online job posting data is that the information is close to real-time data and offers complete coverage of online job postings, whereas government survey data are limited to the employers surveyed. This real-time view of labor demand provides analytical backing for something that has become increasingly evident as the year has progressed: demand for jobs for women has fallen disproportionately more than

for men, and low-skilled workers are likely to fall further behind.

A real-time view of labor demand

As workplaces shut down, the trend in newly posted job vacancies (online posts seven days old or less) plunged by about 50 percent on average across the sample countries beginning in April, compared with the same period in 2019 (see Chart 1). Since then, job vacancies have shown a gradual recovery, but online job posting trends are still significantly down overall compared with previous years despite the reopening of many sectors within the sample countries. Low job postings translate into low labor demand, meaning that it is harder for people to find work. This is usually a bad sign for the economy's health, especially in an environment where businesses lay off more workers and many governments' wage and income support has been tapering off.

The Indeed data, which look at online job postings mainly in advanced economies, show that deterioration in job postings is broad-based. Jobs that can be done from home have been affected as much as jobs less suitable for at-home performance. As the economy has reopened over time, the demand for jobs less easily performed from home has increased more than for work-from-home jobs, likely as a result of the elimination of stay-at-home orders.

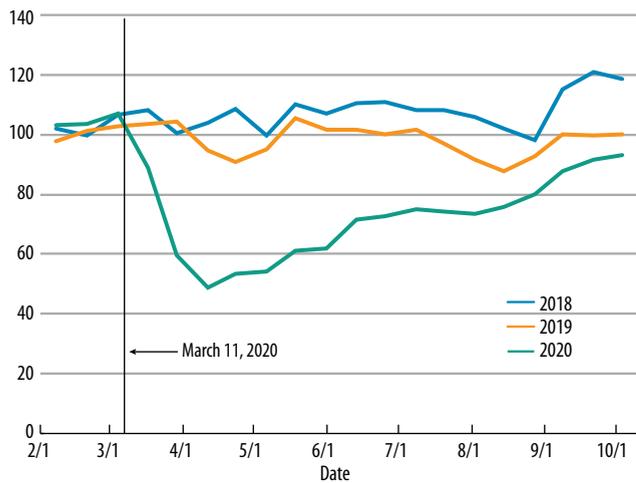
However, certain groups have been hit harder than others. Unlike during the 2008–09 global financial crisis, when most of the jobs lost were held by men, the current crisis has fallen harder on women. For instance, at the beginning of June, online postings for jobs with more female representation were about 40 percent below the trend in postings last June (see Chart 2). For jobs held more by men, the trend in postings was down about 35 percent from last year. This divergence has remained even during the recovery phase. This result corroborates many findings on the disproportionate hardships on women during the current crisis that are affecting them not only in terms of employment but also in terms of an increased burden at home. On the job front, women tend to be overrepresented in jobs such as hospitality, childcare, and restaurants and entertainment,

Chart 1

Fewer jobs to go around

Trends in job postings in 2020 saw a sharp drop of 50 percent on average in certain countries in the early weeks of the COVID-19 pandemic and remain significantly lower than in previous years.

(7-day moving average of total number of new job postings, indexed to Feb. 1)



Sources: Indeed; and author's calculations.

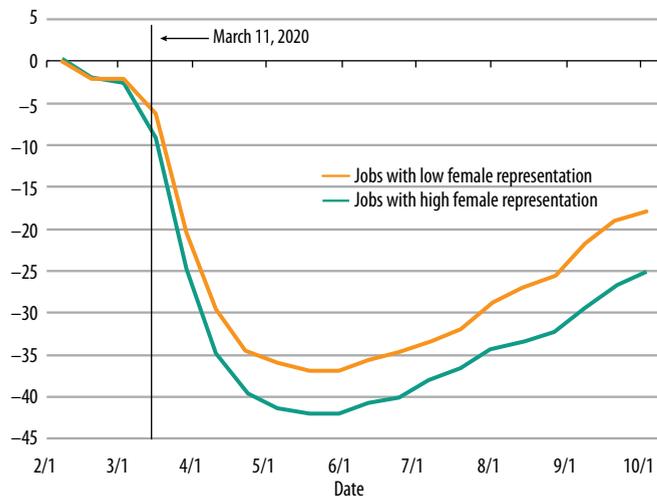
Note: The chart reports binned scatter plots showing the evolution over time of the seven-day moving average of new job postings in various years. New job postings are those that have been on Indeed for seven days or less. The vertical line indicates the World Health Organization's declaration of COVID-19 as a pandemic. Countries included are ARE, AUS, AUT, BEL, BRA, CAN, CHE, DEU, ESP, FRA, GBR, HKG, IRL, ITA, JPN, MEX, NLD, NZL, POL, SGP, SWE, and USA. Country abbreviations are International Organization for Standardization (ISO) country codes.

Chart 2

Gender gap

Postings for jobs with higher female representation dropped at a higher rate during the COVID-19 pandemic.

(2020 vs 2019; gap in trend, percent, indexed to Feb. 1)



Sources: Indeed; International Labour Organization (ILO); and author's calculations.

Note: The chart reports binned scatter plots showing the evolution in the gap in trends (2020 vs 2019) over time of the seven-day moving average of job postings by female representation using ILO sector classifications. The vertical line indicates the World Health Organization's declaration of COVID-19 as a pandemic. Countries included are ARE, AUS, AUT, BEL, BRA, CAN, CHE, DEU, ESP, FRA, GBR, HKG, IRL, ITA, JPN, MEX, NLD, NZL, POL, SGP, SWE, and USA. Country abbreviations are International Organization for Standardization (ISO) country codes.

which were hit the hardest at the outset of the pandemic because of their high person-to-person contact. Women are also being hit hard by the closing of schools and daycare facilities, which has kept children at home. Moreover, women are more likely to drop out of the labor force or cut their hours, which hurts their job prospects. These trends will likely have negative consequences for gender pay gaps, which were shrinking in the years before the onset of the pandemic but are likely to widen now.

Similarly, demand for lower-skill jobs has also declined more than for higher-skill jobs. Many of the occupations that involve direct person-to-person contact tend to employ lower-skilled workers. Job postings in the top skill tier have so far held up notably better, although they also fell by more than a third compared with the previous year (see Chart 3). In other words, opportunities for job seekers who typically would apply for lower-skill jobs have shrunk more than for those likely to apply for high-skill jobs. Since lower-skill jobs are generally associated with lower pay, these trends are especially harmful for low-income groups with few job qualifications. In countries where government support is running out, these people are less likely to have savings that could tide them over until they get a new job, which looks to be much harder in the current economy.

Job postings and policy support

The real-time data also offer evidence that more economic support from the government correlates with a smaller decline in online job postings during the initial rounds of lockdown measures. Countries reacted with strong discretionary fiscal and monetary measures to counteract the negative repercussions of the pandemic. Economic support included fiscal stimulus spending such as income support for those without jobs, business relief—some explicitly mandating the preservation of employee relationships—and debt relief for households. Bearing in mind that countries differ in their underlying economic starting points prior to the crisis, which could affect the outcome of their policies during the pandemic, the gap in job posting trends compared with the previous year is smaller in countries with relatively more economic support from the government. This pattern also holds when controlling for countries' GDP per capita, the number of infections and deaths from COVID-19, and the share of the population that is elderly. In countries with more fiscal stimulus, including grants and loans to businesses, it is likely that

such stimulus is contributing to slower declines in job vacancies. As government support starts to fade and economies reopen, however, it remains to be seen how those supported businesses fare in a subdued economy.

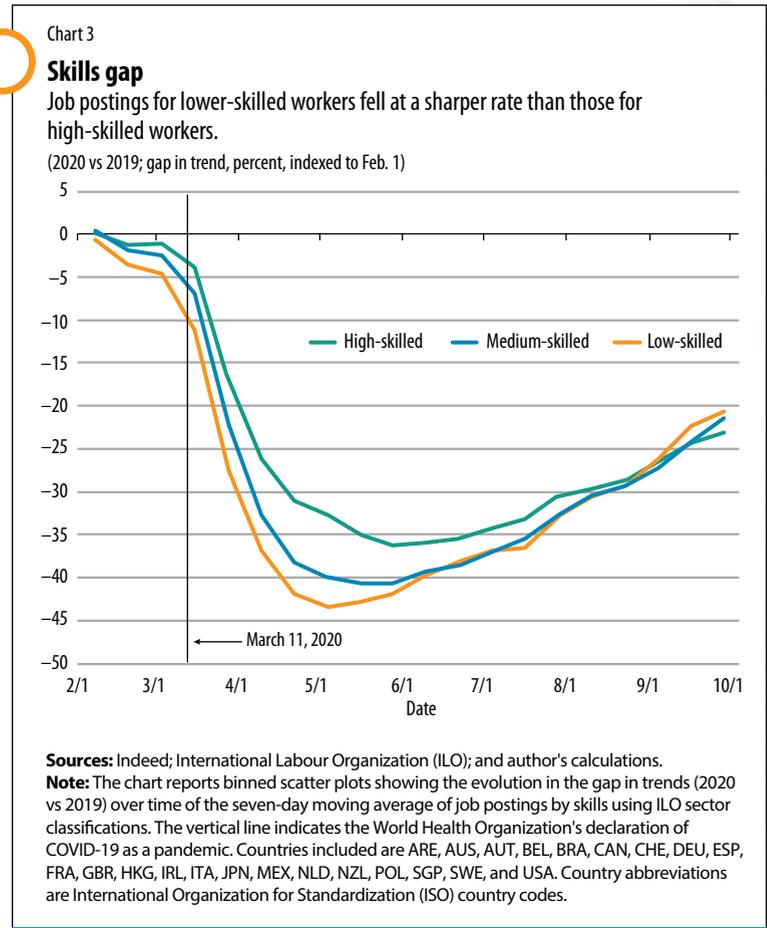
Going forward

Our findings show the value of real-time data during a rapidly unfolding crisis. Such data have been useful in confirming the pandemic’s effect on widening disparities among women and men, rich and poor. But how can real-time data be harnessed to inform policies going forward? If anything, it gives us a glimpse of what may come in the future and how to target support in the present.

Unsurprisingly, the biggest hits were in sectors that were mostly or completely shut down, such as hospitality, restaurants, tourism, and personal services. As a result of this falloff, these sectors’ shares of overall job postings were down substantially. Conversely, job postings in health care, social services, and education have been rising as shares of total postings. The question is whether these trends will continue. The answer will depend on the evolution of the pandemic and the path of economic recovery.

Although coverage of Indeed data is centered mainly on advanced economies, job posting data patterns for Brazil, Mexico, Poland, and the United Arab Emirates also show stark declines in labor demand during the pandemic. Because emerging market and developing economies have large informal sectors, declines in online job postings, which capture mostly formal employment, may not reflect the full extent of the damage on labor outcomes. Women in emerging market and developing economies are also likely to bear a disproportionately larger burden than men, and the effects of temporary school closings on women’s education could have detrimental long-term consequences. As in advanced economies, the priority in emerging market and developing economies is to contain the pandemic while cushioning income losses for people and firms. In the long term, policies for developing and emerging market economies need to address the setback in human capital accumulation and increase in inequality and tackle informality while promoting formal employment.

If these changes are permanent, the real-time data are a harbinger of substantial labor reallocation



that could be painful for many workers, especially those whose skill sets are for sectors less in demand and who are harder to retrain. The uncertainty only reinforces the need for more support and protections for the vulnerable. To address especially hard-hit groups such as female and lower-skilled workers, policies should include incentives for balancing work and family care responsibilities; better access to health care, childcare, and family planning; and expanded support for small businesses and the self-employed. Programs offering worker (re)training and hiring subsidies targeted at workers who face greater risk of long-term unemployment should be explored.

These data are only the tip of the iceberg as the world comes to grips with the pandemic’s societal impacts. What they have made clear is a widening gap between genders and classes. They also reaffirm the value of policies such as investing in education and infrastructure, subsidizing childcare, and offering paid parental leave. These policies are not only crucial to lifting constraints on women’s economic empowerment, they are necessary to promote an inclusive post-COVID-19 recovery. **FD**

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THE LONG SHADOW

OF AN UNLUCKY START

Youth who graduate in a crisis will be profoundly affected and may never fully recover

Hannes Schwandt and Till von Wachter



For the millions of the world's young people who will survive the pandemic, there's still truly difficult news ahead. Not only will the COVID-19 recession give new entrants to the job market a rocky start to their careers, it will also put them at risk to make less money for decades, commit more crimes, have less satisfying family lives, and maybe even die earlier than luckier job seekers.

That's the bleak conclusion emerging from an expanding arena of research into the long-term effects of entering the job market in a recession. Researchers crunching decades of data on previous recessions have obtained a range of sobering findings for the United States. An increasing number of studies find similar results in Canada, Germany, the United Kingdom, Austria, Spain, Belgium, Norway, and Japan.

The plight of new high school and college graduates is starting to draw media attention. Tessa Filipczyk, a 22-year-old June graduate in marine and coastal science from the University of California, Davis, told Bloomberg News that she applied for jobs related to ocean conservation, marine plant research, and climate change advocacy. She planned to work for a year before starting

graduate school. No job offers materialized, and she's living with her parents.

"That all just got swept under the rug by COVID," she said.

Jayden, a 17-year-old who was interviewed by *the Atlantic*, was hoping before the pandemic to learn to become a mechanic after finishing high school in eastern Missouri. She hoped to find a job in an auto repair shop, but that plan evaporated, leaving her working at a fast-food restaurant.

"I don't want to work [in fast food] forever," she said, "but I also don't want to quit there if I don't have a more career-based job."

In recent work, we studied new labor market entrants through booms and busts in the United States over 40 years from 1976 through 2015. Our work was partly inspired by our observations of friends who completed degrees around the time of the Great Recession. Even after several years, we noticed a significant difference in the job quality and job satisfaction between those who entered the job market just before the recession and those who did so as it unfolded.

Based on our findings, we approximate that the roughly 6.8 million young US labor market entrants

looking for their first full-time job in 2020 might give up about \$400 billion in earnings over the first 10 years of their working lives. That projection is based on a swift economic recovery in 2021. If the pandemic-induced recession continues or deepens next year, 2020 graduates might fall even further behind, and an additional unlucky group of new entrants would face the same dire outlook in 2021.

As the world races to develop an effective vaccine, policymakers responding to the pandemic's economic crisis need to address this group's predicament. In the short term, responses could include job search assistance, incentives for part-time work, and payroll subsidies for newly hired workers. For the medium term, welfare and support policies need to account for lasting impacts, especially for the less educated.

And it's important to inform young workers about the negative long-term impacts they face and their causes. Knowing that their challenges probably don't reflect a lack of skills or personal failure can motivate those in less productive jobs to keep seeking opportunities and move to better jobs as the economy recovers.

Economists' understanding of the long-term damage from starting a career in the face of a recession has deepened in the years since the Great Recession more than a decade ago. Traditionally, economists thought of economic booms and busts as temporary phenomena. But studies of large cross-sectional and longitudinal data sets around the world find persistent effects of downturns for those who enter the job market during a recession. Such long-term impacts have been found for MBA graduates, PhD economists, college graduates in general, and really for most groups across the demographic and educational spectrum in the United States and in other countries studied.

Those unlucky enough to start careers in a recession have been found to experience lower earnings for 10 to 15 years after graduation, or longer. Less educated and non-White workers experience prolonged episodes of unemployment and temporary increases in poverty. More highly educated workers take jobs with lower-paying employers and partially recover by switching to better employers. Studies have also found that those in this group are more likely to have lower self-esteem, commit more crimes, and distrust government.

We find qualitatively similar patterns for men and women, for Whites and non-Whites, and for high school dropouts, high school graduates,

and college graduates (see chart). However, more vulnerable labor market entrants tend to suffer larger effects. For example, while those with college degrees suffer an initial earnings loss of about 6 percent when entering the labor market in a moderate recession, high school dropouts experience an earnings reduction of as much as 15 percent.

But the effects of starting a career in a recession are not limited to earnings, wages, or job quality. Researchers have documented a broad range of other economic, social, and even health outcomes. These are likely to feed back into a worker's productivity, reinforcing the initial earnings impacts.

Lower earnings for individuals translate into lower family incomes, lower rates of home ownership, and—for lower-skilled entrants—higher poverty rates. This is also reflected in mating patterns: recession job entrants are more likely to end up in the arms of a spouse experiencing a similar recession-induced earnings reduction.

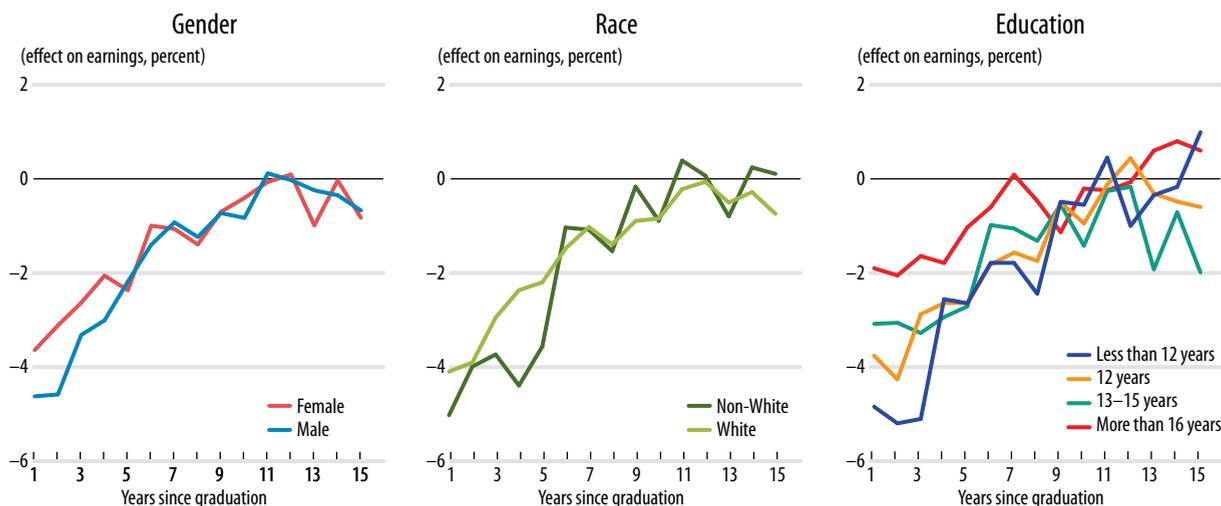
RECESSION JOB ENTRANTS REPORT LOWER SELF-ESTEEM, ARE MORE LIKELY TO DRINK TO EXCESS, AND HAVE HIGHER OBESITY RATES.

Social safety net programs such as the Supplemental Nutrition Assistance Program and Medicaid seem to buffer at least some of these adverse impacts. Yet researchers have found that recession job entrants report lower self-esteem, are more likely to drink to excess, and have higher obesity rates. If these social and health effects feed back into worker productivity, impacts on economic outcomes might also reappear in the longer term.

We dug into data from the US government's Vital Statistics System, Current Population Survey, American Community Survey, and Decennial Census going back to the 1970s. We find that the negative earnings effects from entering the labor market never fully disappear. For a middle-aged worker, these losses settle at about a 1 percent earnings decline for every percentage point increase in the unemployment rate when they start working. With the unemployment rate in mid-2020 at about 10.5 percent, or 7 percentage points higher than in the months preceding the crisis, this suggests that by the time today's young

Dismal decade and a half

The long-term hit to income for those starting work in a recession applies to men and women, Whites and non-Whites, and all levels of education.



Source: Schwandt, H. and T. von Wachter. 2019. "Unlucky Cohorts: Estimating the Long-Term Effects of Entering the Labor Market in a Recession in Large Cross-sectional Data Sets." *Journal of Labor Economics* 37:5161-5198.

Note: Figures show the percent impact on earnings caused by a 1 percentage point increase in the unemployment rate at labor market entry.

workers reach the age of 40, they'll be making 7 percent less every year than if they had entered the job market last year.

Even more dramatically, we find that mortality rates of recession entrants start to rise in their early 40s compared with those in luckier groups. A 3.9 percentage point increase in the unemployment rate at job market entry—roughly the experience for 1982 recession entrants—decreases life expectancy by 5.9 to 8.9 months. For the class of 2020 entrants facing almost twice the jobless rate, we estimate that life expectancy will decline by 1 to 1.5 years.

While the average mortality impact is relatively modest for a given individual, it can be economically significant in aggregate, especially during large recessions such as the COVID-19 contraction. The long-term effects on mortality are mainly driven by disease-related causes—such as heart disease, liver disease, and lung cancer—which can be linked to unhealthy lifestyles and stress. There is also a smaller impact on drug overdose deaths, but no midlife effect on suicide, fatal accidents, or other external causes.

These negative long-term impacts on the health of recession job market entrants come with further adverse social and health outcomes. While members of this group have been found to be more likely to marry and have children at an early age, family outcomes

are less favorable in the long term. By midlife, we observe lower marriage rates, higher divorce rates, and fewer children. Recession entrants further report higher rates of work disability and Social Security Disability Insurance, and they are more likely to be married to a spouse who receives disability benefits.

Bottom line: Entering the labor market in a recession is associated not only with significant income losses in the short term, but also with broad social and health consequences that persistently hurt household finances, family formation, and longevity. The evidence discussed here is from industrialized countries, where the data required to study long-term consequences of an unlucky start are more readily available. Yet unlucky cohorts might experience even larger or longer-lasting penalties in lower- or middle-income countries, where in addition young people are also at increased risk of dropping out of school. Given the unprecedented magnitude of the COVID-19 economic contraction, it is more important than ever to develop policies and individual-level strategies to lessen the lasting scars for these labor market entrants. [FD](#)

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Distribution Matters

Economics can't avoid distributional issues—it must make room for insights from other disciplines

Binyamin Appelbaum



PHOTO: DENNO BACVIC

WE LIVE IN AN AGE of material abundance and social disquietude. A quarter millennium of industrial revolution has produced an awesome increase in prosperity: almost 8 billion people and enough wealth for every one of them to live lives of unprecedented comfort.

The problem, of course, is in the distribution.

The rise of economic inequality in the developed world is weighing on growth and straining the fabric of liberal democracy. And economists, who exert a profound influence on public policy-making, have an important role to play in analyzing the inequities of distribution, exploring the

consequences, and shaping remedies. The past half century has provided a mountain of data. And in the past decade, particularly among younger economists, there has been a clear surge of interest and engagement.

Just as economists learned to incorporate the growth of knowledge into their understanding of the world, just as they have—for the most part—accepted the need to wrestle with the imperfections of financial markets, so too they now are grappling in earnest with the complexities of distributional questions.

The field's long-standing indifference to the distribution of prosperity has come at the particular expense of minorities.

Yet as a careful observer of the discipline of economics—albeit as an outsider looking in through the windows—engagement with these questions seems to me still constrained by a number of factors. Many economists have enduring doubts about the importance of distributional issues. Many are reluctant to become engaged in what they see as normative questions. And intertwined with these doubts and misgivings is the discipline's disregard for other forms of knowledge, and its lack of diversity.

The field's long-standing indifference to the distribution of prosperity has come at the particular expense of minorities, and it is no great leap to suggest that a more diverse profession might reach different conclusions. To be sure, this is a premise that offends some economists. Milton Friedman famously insisted that the political views of good economists could not be discerned in their academic work. He lacked the self-awareness to see that his interests, methods, and conclusions

were all informed by his life experience—and in this respect, Friedman was just like everyone else.

In some cases, greater diversity may yield greater clarity. In other cases, greater diversity may result in greater confusion, as new voices challenge old certitudes. But that is a kind of clarity too: it will tell us what we don't know.

Equity vs efficiency

Inequality is an economic issue. A growing body of research illuminates its importance. The distribution of wealth and income has a meaningful influence on the distribution of opportunity, on the mechanics of the business cycle, and on the pace of innovation. Inequality also distorts public policy, increasing the power of rent-collecting elites and of those seeking aid, while attenuating the sense of shared purpose necessary for public investment in education, infrastructure, and research.

For decades, mainstream economists argued that efforts to address inequality through redistributive policies would come at the expense of growth—what Arthur Okun called “The Big Tradeoff.” But one silver lining to the rise of inequality over the past half century has been the opportunity to study the real-world impact. A number of recent studies, including work by Jonathan D. Ostry and his colleagues at the IMF (Ostry, Loungani, and Berg 2019), find that high levels of inequality actually impede growth.

Yet even among economists who regard this evidence as compelling, one encounters hesitation about incorporating distributional considerations into the advice professors give to policymakers. Economists have long conceived of their role in public policy debates as being “the partisan advocate for efficiency,” in the words of Charles Schultze, an advisor to Presidents Lyndon B. Johnson and Jimmy Carter. One reason is that in championing efficiency, economists think of themselves as representing the interests of the common man and woman. “Without economists in the room, it's like a free-for-all where everybody is going for their narrow self-interest and there is no voice for efficiency. And what ‘efficiency’ really means is ‘every American citizen,’” said Michael Greenstone, a University of Chicago economist who worked in the Obama administration. The evidence of the past half century strongly suggests that simply advocating for efficiency does not produce the best

outcomes for those ordinary men and women. But there is real value in the role, there isn't anyone else likely to perform it, and therefore it's reasonable to have some hesitation about the consequences of a diluted focus.

Furthermore, many economists profess a reluctance to meddle in what they regard as a political debate about the distribution of economic output. Quite often, the result is that economists finesse the question of distribution by noting that the benefits of more efficient policy could be distributed equitably, whatever that means, but the details should be worked out by the politicians. Paul Romer, a Nobel laureate in economics, argued in a recent essay (Romer 2020) that economists should just “say ‘No’ when government officials look to economists for an answer to a normative question.”

I recognize the appeal of Romer's advice. Overconfidence is a common attribute in disciplines that reach for practical conclusions. Perhaps it is even a necessary one: after all, choices must be made. But there is an obvious attraction in limiting the scope of the potential damage.

The problem is that normative judgments can't be avoided.

In the 1980s, for example, most mainstream economists favored the elimination of minimum wage laws. In 1987, my predecessors at the *New York Times* editorialized in favor of eliminating minimum wage laws, citing “a virtual consensus among economists that the minimum wage is an idea whose time has passed.” This was purely a judgment about economic efficiency. Economists did not pretend to weigh other arguments for minimum wages. But by advocating for a change in policy on the basis of efficiency, they implicitly devalued those arguments. (And, as it happened, even the efficiency argument was wrong. A few years later, two economists took the radical step of gathering evidence and reached a different conclusion. American workers are still suffering the consequences.)

Even economists who embrace in good faith the argument for avoiding distributional advice—especially economists who embrace this argument in good faith—must recognize that, in practice, they are facilitating the exclusion of distributional issues from public debate. A genuine concern about distributional issues requires distribution to be

Cross-pollination with other disciplines has enriched economics. But the goal ought not to be the creation of some hybrid super social science.

treated as a primary goal of policy, not as a by-product that requires remediation.

It is particularly problematic for economists to advocate for a policy as broadly beneficial if there is no mechanism for a broad distribution of benefits. Economists have often advocated for trade deals by calculating net benefits and deferring questions of distribution. But the second act seldom happens. “The argument was always that the winners could compensate the losers,” the economist Joseph Stiglitz, also a Nobel laureate, told me a few years ago. “But the winners never do.” Huffy, for example, built about 2 million bikes a year in the town of Celina, Ohio, until it moved production to China in 1998 to meet Walmart’s demand for cheaper bikes. There is now a Walmart where the Huffy workers once parked their cars, and everyone in Celina—and everyone in towns across the United States—can buy cheaper bicycles. But the workers lost their jobs, and promises of help went largely unkept. Advocacy for the interest of “the people,” in the abstract, often ends up looking a lot like cruel indifference to actual people.

Cross-pollination

The assertion here is not that economists should aspire to provide comprehensive guidance on the optimal distribution of economic output. They can’t. Cross-pollination with other disciplines has enriched economics, as in the incorporation of insights from psychology; from the work of demographers who look at the spatial dimension of economic activity; and from the examination of the evolution of economic ideas through time. But the goal ought not to be the creation of some hybrid super social science.

Rather, the need is to leave space for other perspectives. Economists can provide better guidance to policymakers by emphasizing the importance of distribution—and the importance of considering other kinds of knowledge.

A disturbing body of psychological research, for example, documents that economic inequality

mimics the effects of absolute poverty on physical and mental health. This isn’t an insight that fits easily into economic models, nor does it need to. The key question is how to make sure that information is incorporated into decision-making alongside economic analysis.

There’s an old saying that there are two kinds of scientists: those trying to understand the world and those trying to change it. The nature of economics places it solidly in the second category, but economists don’t always seem to recognize the implications. Treating distributional issues as segregable is politically naive and therefore tends to limit the beneficial influence of economic ideas. The development economist Gustav Ranis observed that economists struggled to influence policy in many developing nations because they had their priorities backward. Economists emphasized efficiency as the most important goal of public policy while regarding political stability and distributional equity as benefits of the resulting growth. Ranis argued that the list should be reversed. People must agree that policies are equitable and conducive to stability before they are likely to support measures to increase efficiency.

That’s a powerful truth: no matter how well you think you understand the world, you still need to persuade others to listen. **FD**

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RETHINKING

The pandemic is accelerating a shift toward more informal and precarious work

Sabina Dewan and Ekkehard Ernst

With millions of jobs lost, robots on the rise, and white-collar workers toiling largely at home, COVID-19 appears to have ushered in a new normal in the global workplace.

But many of these developments stem from failed policy responses to megatrends already in motion long before the pandemic struck. For at least two decades, shifting demographics and technological upheaval have been upending labor markets, exacerbating inequality, making jobs increasingly precarious, and deepening economic insecurity.

The new normal, in other words, isn't really new. A deadly virus has simply accelerated the pace of change, with devastating consequences—especially

for developing economies, which are expected to lose at least \$220 billion in income, according to the United Nations Development Programme.

Now that the crisis is upon us, we should not waste it, as politicians like to say. Policymakers must pursue a more dramatic course correction than previously considered. They must sweep away flawed ideas about jobs and seize this emergency as an opportunity to build resilient, equitable, and sustainable economies.

Changing demographics

This exercise requires more than a return to pre-COVID conditions. It calls for a fundamental reappraisal of our assumptions, beginning with

Food delivery drivers queue on Pham Ngoc Thach street in Hanoi, Vietnam.



THE WORLD OF WORK

Advanced economies—think of Germany, Japan, and the United States—are struggling with aging populations. So are some emerging market economies, including China. But in a majority of developing economies, the youth population is swelling. Some of these countries, such as India, Indonesia, and Nigeria, will approach the peak of their demographic bulge during the next two decades, while smaller countries, such as Angola and Zambia, are in earlier stages of the demographic transition.

Conventional wisdom says that a large and growing population of young adults can provide a demographic dividend by increasing the ratio of workers to dependent children and retirees. But this postulate must be rethought. A youth bulge presents an advantage only if economies can create productive jobs with rising wages.

India's youth population of 362 million, ages 15–29, is higher than the entire population of the United States. At 17.8 percent, the unemployment rate for this cohort was three times that of the overall working population even before the pandemic. Young people in countries that fail the productive job test are likely to end up unemployed or working in poor-quality jobs in the informal economy, which is neither taxed nor monitored by governments (see Back to Basics in this issue of F&D).

Without large-scale job creation, surplus labor in developing economies will exert downward pressure on wages and working conditions. The result will be not only a deteriorating quality of life but also a ceiling on economic growth. We cannot expect the middle class in developing economies to keep expanding if young people cannot find jobs that pay middle-class wages.

As in previous crises, young adults have been among the first affected by the social, educational, and economic disruption. This was borne out by a survey of more than 12,000 young people conducted across 112 countries in April and May, when the pandemic was spawning the worst global recession since World War II (see Picture This in this issue of F&D).

Reporting on the survey, the International Labour Organization (ILO) found that 17 percent of previously employed people between the ages of 18 and 29 stopped working after the pandemic hit, and 42 percent reported a drop in income. In the absence of pathways to productive and high-quality employment, developing economies that pin their economic ambitions on a demographic advantage are setting themselves up for disappointment.

Fast and furious

The pandemic is accelerating the advancement of technology, which was already restructuring labor markets. For many, technology has enhanced efficiency and enabled remote work, but for others, it has disrupted livelihoods. Automation has clearly destroyed some jobs as robots clean hospital floors, tollbooth operators vanish, and chatbots replace customer service agents. Yet digital platforms have also added new and different jobs to the economy—jobs in software programming, health care, and—yes—pizza delivery and taxi services.



The key question is this: Whose jobs will vanish and who can access the new forms of work?

Automation was gaining ground well before COVID-19 hit. This should come as no surprise, especially in places where new technology triggered structural transformation through massive employment shifts in the past—first from farms to factories and then from factories to services.

Where the cost of deploying new technology is low and promises higher output and faster delivery, companies replace workers with machines—as the Luddite handloom weavers learned. Automation is gaining ground faster in developed economies (and in China), where labor costs are relatively high and companies have capital to spare. But developing economies are certainly not immune. They may have a surplus of low-cost labor, but that is only one factor in the overall cost of production.

More companies will automate as the pandemic underscores the vulnerabilities of a human workforce and geographically dispersed global supply chains. Some may also “reshore” production by bringing manufacturing and service jobs back to the United States and Europe—a trend that was emerging before COVID-19. Developing economies must brace for a triple shock: increasing labor substitution as domestic companies automate, at least moderate growth in foreign companies reshoring, and slowing exports as demand remains low.

The pandemic is also fueling the platform economy. From e-commerce to the gig economy, consumers are increasingly tapping the internet to connect with goods and services from the safety of their homes.

The gig economy’s low barriers to entry present new employment opportunities—and new hazards—for developing economies. The danger is that the bulging supply of young and low-skilled workers drawn to platforms is likely to exceed the demand for their services as data processors, customer service representatives, and ride-hailing service drivers.

Not only will these workers frequently find themselves “gigless”—that is, underemployed—but they will likely face downward pressure on

working conditions. Evidence from countries where an increasing share of workers compete on gig platforms confirms that wages are getting squeezed. And the assumption that most gig workers were previously in poor-quality informal work doesn’t always hold. A 2015 study by Perkumpulan Prakarsa and the JustJobs Network surveyed 205 on-demand motorbike taxi drivers working through the online taxi-hailing applications Gojek and GrabBike. Of the respondents who were previously employed, 51 percent had been engaged in the formal economy before joining the gig economy.

COVID-19 is also accelerating trends in distance learning and remote work. But these developments widen the gap between the haves and the have-nots—between those who can and cannot afford computers and internet access and between those who do and don’t have the skills to participate in a digitally driven economy.

Growing precarity

As this analysis suggests, the pandemic is driving a shift toward more informal and precarious work among people who are just seeking to make ends meet. Prior to the pandemic, the rise in contractual work notwithstanding, informal employment was stagnant or even declining in some countries. But the pandemic will likely reverse this trend. These informal work arrangements may push down unemployment in developing economies, but the jobs are less secure and tend to be lower-paying and less productive. Policymakers should not be fooled by the numbers. After the pandemic, a decline in the unemployment rate should not be mistaken for economic recovery.

The ILO estimates that workers around the world lost \$3.5 trillion in labor income in the first three quarters of 2020 as the pandemic slashed their hours on the job. From simply a health crisis, the pandemic has morphed into both a health and an economic crisis, fostering uncertainty in the business climate and fear among employees.

The risk, for workers, goes well beyond immediate job losses and hiring freezes. The deeper

danger is that companies will be less inclined to build permanent workforces, relying instead on cheaper gig, temporary, or contractual workers.

A flexible labor market is valuable when it leads to more efficient allocation of resources. But flexibility that flows from low-productivity work and a decline in working conditions, as is the case in developing economies, does more harm than good—both for workers and society.

People in informal and contractual arrangements and those who are self-employed generally do not receive social security through an employer, leaving them vulnerable to shocks such as from COVID-19. The rise in informal employment also squanders precious productive potential and reduces consumption power, circumscribing broad-based economic development.

Solutions

What must policymakers do to manage these trends and soften their adverse impacts?

First, policymakers must acknowledge that relentless pursuit of economic growth will not automatically create jobs. The priority has to be job-rich growth. This entails advancing sectors that both employ a lot of people and raise growth capacity; for example, infrastructure. It also means investing in increasingly productive labor-intensive sectors and moving up the value chain—for instance, moving from assembly to full package production of apparel or from subsistence farming to food processing. Wage growth should align with increases in productivity.

Second, governments should reject the idea that “any job is better than no job.” That may be true from a destitute worker’s perspective, but it makes little sense economically. Poor-quality jobs exacerbate inequality, waste productive potential, and reduce aggregate demand—all of which are bad for growth. To this end, governments must resist the urge to indiscriminately weaken labor regulations under the pretense that it’s good for business. Appropriately formulated minimum wages, social security, and active labor market policies—including job search assistance and apprenticeship programs—are good for worker productivity and help smooth consumption in times of distress.

Third, governments should recognize that technology, like a genie freed from its bottle, cannot be coaxed away. But they can regulate it. This means putting public interest ahead of commercial interest in mandating data sharing and transparency from tech companies that run digital platforms. Workers who sign on to such labor platforms should have access to public benefits and services. Governments should have access to the data to facilitate evidence-based policymaking. Enforcing competition law more stringently to curb the power of large and growing corporations is essential. Policymakers should revisit corporate taxation, particularly for tech companies that engage in rent seeking and labor arbitrage, to help extend social security coverage to informal and contract workers.

Governments should reject the idea that “any job is better than no job.”

Fourth, the advent of technology and changing demography in developing economies call for investments in reforming and updating human capital to appropriately educate and train young people so that they are more employable. Moreover, as the pandemic alters the economic landscape, creating opportunities for some sectors to thrive while weakening others, policymakers must help workers retool accordingly.

Finally, a myopic focus on boosting efficiency rather than building resilience leaves economies vulnerable. Government investments in health, education, public employment, and social protection systems have all proved their worth. So have fiscal and monetary stimulus. Although these programs can seem inefficient in good times, they provide the necessary space for policymakers to react quickly in uncertain times. **FD**

SABINA DEWAN is president and executive director of the JustJobs Network, an international think tank focused on creating more and better employment worldwide.

EKKEHARD ERNST is an International Labour Organization macroeconomist who studies the impact of trends and policies on employment, wages, and inequality.

THE JOBS OF TOMORROW

Some jobs will disappear and others will emerge as the world faces a dual disruption

Saadia Zahidi

The World Economic Forum's *Future of Jobs Report 2020* comes at a crucial juncture for the world of work. The report, now in its third edition, maps the jobs and skills of the future, tracking the pace of change based on surveys of business leaders and human resource strategists from around the world. This year, we aim to shed light on the effect of pandemic-related disruptions placed in the broader context of longer-term technology trends. Here are the five things you need to know from our findings.

1 The workforce is automating faster than expected, displacing 85 million jobs in the next five years. Automation, in tandem with the COVID-19 recession, is creating a “double-disruption” scenario for workers. Companies’ adoption of technology will transform tasks, jobs, and skills by 2025. Some 43 percent of businesses surveyed indicate that they are set to reduce their workforce because of technology integration, 41 percent plan to expand their use of contractors for task-specialized work, and 34 percent plan to expand their workforce as a result of technology integration. Five years from now, employers will divide work between humans and machines roughly equally.

2 The robot revolution will create 97 million new jobs. As the economy and job markets evolve, new roles will emerge across the care economy in technology fields (such as artificial intelligence—AI) and in content creation careers (such as social media management and content writing). The emerging professions reflect the greater demand for green economy jobs; roles at the forefront of the data and AI economy; and new roles in engineering, cloud computing, and product development. The up-and-coming jobs highlight the continuing importance of human interaction in the new economy through roles in the care economy; in marketing, sales, and content production; and in roles that depend on the ability to work with different types of people from different backgrounds.

3 In 2025, analytical thinking, creativity, and flexibility will be among the most sought-after skills. Employers see critical thinking, analysis, and problem solving as growing in importance in the coming years, although these have consistently been cited in previous editions of the survey. Newly emerging this year are skills in self-management, such as active learning, resilience, stress tolerance, and flexibility. The data available through metrics partnerships with LinkedIn and Coursera allowed us to track with unprecedented granularity the types of specialized skills needed for the jobs of tomorrow.



“Ins” and “outs”

The demand for some jobs will rise over the next five years, while for others it will shrink.

Increasing demand		Decreasing demand	
1	Data analysts and scientists	1	Data entry clerks
2	AI and machine learning specialists	2	Administrative and executive secretaries
3	Big data specialists	3	Accounting, bookkeeping, and payroll clerks
4	Digital marketing and strategy specialists	4	Accountants and auditors
5	Process automation specialists	5	Assembly and factory workers
6	Business development professionals	6	Business services and administration managers
7	Digital transformation specialists	7	Client information and customer services workers
8	Information security analysts	8	General and operations managers
9	Software and applications developers	9	Mechanics and machinery repairers
10	Internet of things specialists	10	Material-recording and stock-keeping clerks
11	Project managers	11	Financial analysts
12	Business services and administration managers	12	Postal services clerks
13	Database and network professionals	13	Sales rep., wholesale and manufacturing, technical and scientific products
14	Robotics engineers	14	Relationship managers
15	Strategic advisors	15	Bank tellers and related clerks
16	Management and organization analysts	16	Door-to-door sales, news, and street vendors
17	FinTech engineers	17	Electronics and telecoms installers and repairers
18	Mechanics and machinery repairers	18	Human resources specialists
19	Organizational development specialists	19	Training and development specialists
20	Risk management specialists	20	Construction laborers

Source: Future of Jobs Survey 2020, World Economic Forum.

4

The most competitive businesses will focus on upgrading their workers' skills.

For workers set to remain in their roles over the next five years, nearly half will need retraining for their core skills. The survey also found that the public sector needs to provide stronger support for reskilling and upskilling of at-risk or displaced workers. Currently, only 21 percent of businesses report being able to make use of public funds to support their employees through retraining initiatives. The public sector must provide incentives for investment in the markets and jobs of tomorrow, offer stronger safety nets for displaced workers during job transitions, and tackle long-delayed improvements of education and training systems.

5

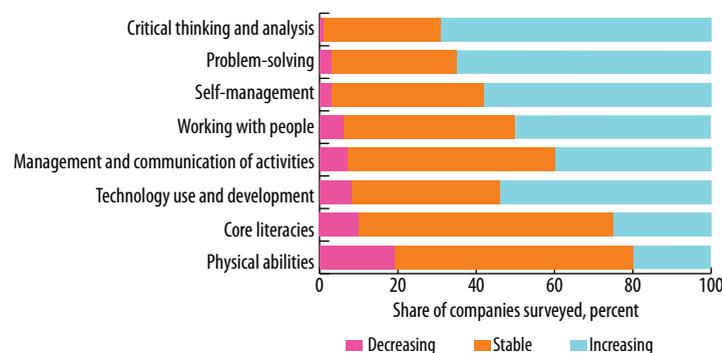
Remote work is here to stay.

Some 84 percent of employers are set to rapidly digitalize work processes, including a significant expansion of remote working. Employers say there is the potential to move 44 percent of their workforce to operate remotely. However, 78 percent of business leaders expect some negative impact on worker productivity, and many businesses are taking steps to help their employees adapt. **FD**

SAADIA ZAHIDI is a managing director at the World Economic Forum and head of the Forum's Center for the New Economy and Society.

Shifting priorities

The relative importance of skill sets is evolving, employers say, with some increasing in value and others declining.



Source: Future of Jobs Survey 2020, World Economic Forum.



Rescuing Their **INHERITANCE**

Youth can drive society's response to the COVID-19 crisis, even as they keenly feel its effects

All generations have a defining moment. A moment of truth when they critique the present and, striving for a better future, take destiny into their own hands. For today's youth—millennials and Generation Z—this is their moment. We know that many young people, already grappling with the legacy of the global financial crisis, have been hit especially hard by the pandemic. Educations disrupted. Livelihoods

upended. Anxiety and depression rife. Yet the world's young people have not stood idly by. Legions of diverse youths have mobilized as volunteers, social entrepreneurs, and thinkers to envision a fairer and more inclusive world.

Four young leaders from the World Economic Forum's Global Shapers Network discuss how their generation is confronting—and helping their communities overcome—the COVID-19 crisis.



**David Walcott,
Kingston, Jamaica**

Twelve years after the 2008 financial crisis, COVID-19 has delivered yet another dose of global trauma affecting younger and older generations alike. Despite the Caribbean’s tropical climate, small land masses,

and easily regulated borders, our health and economic systems remain vulnerable, and we now face socioeconomic repercussions that imperil the future of our youth.

The pandemic has triggered a sense of uncertainty and financial instability, particularly among millennials preparing for the conventional transition through education and employment to financial independence.

Young people in the Caribbean face increasing challenges to gaining entry to the wealth ladder—compounded now by the pandemic. Labor markets have contracted, and both locally schooled and repatriated Caribbean millennials are struggling to find jobs, despite degrees from eminent universities.

Students face disruption to their education as they struggle with remote learning. This has affected particularly those from low-income communities, despite the best efforts of educational institutions.

Compounding these challenges, our collective well-being has deteriorated notably. More and more people are struggling with depression and anxiety as we face isolation and mask fatigue, excessively consume social media, and deal with the unexpected loss of family members. Our financial distress has been compounded by existential angst as we contemplate an uncertain and unclear future.

Despite these challenges, Caribbean young people have shown their resilience through volunteerism and participation in public and private pandemic-response efforts. Regional decision-makers must use this crisis to build on the strength of our youth and realign our Caribbean identity with innovation and progress. This vision

calls for investment in opportunities for youth participation in our new world, complemented by policy-driven initiatives to boost access to online learning and remote employment.

Our financial stress has been compounded by existential angst as we contemplate an uncertain future.

Policies that acknowledge and respond to burgeoning mental health needs will be essential to support Caribbean youth in a world where global crises defined our formative years. Policy-driven support can transform today’s struggle into tomorrow’s strength as we prepare to build a new Caribbean.

DAVID WALCOTT is a medical doctor and the founder and managing partner of NOVAMED, a company driving the adoption of innovative health care solutions in emerging markets.



**Tiffany Yu,
San Francisco,
United States**

Despite being one of the world’s wealthiest countries, the United States has been leading the globe in the number of COVID-19 cases and deaths, in addition to grappling with racial tensions, hurricanes

and record wildfires, and political polarization.

The compounding effects have led to an economic, social, and mental health crisis that is taking its toll on young people, especially those who hold intersecting oppressed identities.

The pandemic is highlighting the digital divide. As school and work have moved online, many young people have been left to navigate potentially

Young people across the world are invigorated by discussions about green recovery and are optimistic about the drop in global emissions.

complex homelives without reliable internet and workable laptops.

COVID-19 is exacerbating growing social inequities. Research by McKinsey & Company found that the crisis disproportionately harms Black Americans, from mortality to bankruptcy. Disruptions to education, learning, and employment threaten young people with an overall setback.

And the pandemic has created a mental health crisis among our youth. Shelter-in-place orders are further straining unstable home environments. Young people are left to deal with trauma and grief on their own. Social distancing measures and social isolation increase feelings of loneliness, anxiety, and stress.

Yet during the pandemic we have also learned to be agile, adaptable, and resilient—especially young people, who are unapologetic about their desire for social change.

We often say that young people are the future. That means ensuring they have the voice and agency to cocreate that future. And we also need to acknowledge the intersecting identities that may cause compounded oppression—race, gender, sexual orientation, disability, or some combination thereof. In this spirit, I have three concrete proposals for today’s decision-makers:

- Engage diverse young people in cocreating solutions by including at least one young person on every mayoral commission or council.
- Empower young people through access to education and employment by equipping them with hardware and connectivity and investing in small businesses and social entrepreneurs.
- Invest in young people’s mental health and overall well-being by teaching empathetic listening skills in schools and ensure that

everyone who wants mental health support is able to receive it.

Let young people be part of the solution to today’s crisis.

TIFFANY YU is a San Francisco–based social entrepreneur on a mission to increase intersectional disability representation. She is the founder and CEO of Diversability and serves on the San Francisco Mayor’s Disability Council



Ashleigh Streeter-Jones, Canberra, Australia

Following months of hazardous bushfires, my community in Canberra had barely two months before the next challenge: COVID-19. Unlike the bushfires, the pandemic produced fear and uncertainty worldwide.

This distress affects especially vulnerable people—the young and the old, the poor and the homeless, people with preexisting health conditions, and those with uncertain immigration status. The pandemic has highlighted and exacerbated global inequality; we have a long way to go in creating a more equal world.

Young people in the geographically broad Pacific region face many of the same pandemic-related challenges. COVID-19 has worsened job and financial insecurity. Governments are working hard to restore jobs, but young people will still be underemployed in industries hit by the global recession.

Many young people, especially from lower socioeconomic backgrounds, have suffered disruption

to their education because they lack the devices and stable internet necessary for home learning. Community organizations and for-profit groups have held online workshops to help people upgrade their marketable skills, but many young people lack access to them. Mental health has also proved a significant challenge. Disrupted routines, uncertainty, isolation, and the loneliness of lockdowns have fueled anxiety and depression.

However, change creates opportunity. Young people across the world are invigorated by discussions about green recovery and are optimistic about the drop in global emissions. Similarly, many young people have embraced entrepreneurship, investing in themselves and their communities. Seizing this opportunity, I launched an initiative, Raise Our Voice, that works to upskill female and nonbinary youth from diverse backgrounds to be leaders in public decision-making. This brought about an engaged online community ready to be at the forefront of positive change.

During COVID-19, the World Economic Forum's Global Shaper Hubs have been organizing check-ins, food drives, and letter writing for those in need. I feel privileged to be part of a group quick to pivot and think creatively about how to support the community. COVID-19 will continue to be a challenge, but I'm proud to be one of the young people working to create a better world.

ASHLEIGH STREETER-JONES is an intersectional gender activist who has spent much of her career working with young people and getting them a seat at the table.



Hamad AlMahmeed, Manama, Bahrain

The world's youth may have been spared the coronavirus's most pernicious health effects, but the associated economic shock has crippled fledgling careers and

interrupted the education of scores of young men and women across the globe. The Kingdom of Bahrain anticipated these knock-on effects early on and is working tirelessly and proactively to shield young Bahrainis from the pandemic's most perilous consequences.

The government has adopted a levelheaded and empirically driven approach in a deliberate effort to protect the health of its citizens and residents as well as safeguard the country's economic integrity. Striking an appropriate balance requires agile infrastructure, with the requisite flexibility to adjust and respond to a rapidly evolving reality. Bahrain's youth are instrumental in this regard.

The National Taskforce for Combating Coronavirus was established before Bahrain registered its first confirmed case of the virus, with the objective of a whole-of-government response. In leading the task force nerve center, I work with young men and women from all backgrounds and professional fields, who stand out for their enthusiasm and creativity.

Many of our prized solutions have been pioneered by young team members. Drive-through testing stations were set up in unused parking lots, and public buses were converted to mobile testing units. Bahraini youth also work in significant leadership roles across most of the task force's workstreams, including the contact tracing and testing plan teams.

The innovation brought to bear by these members has been critical to the realization of Bahrain's containment strategy. From the volunteers at Bahrain's COVID-19 call center to the supervisors and doctors in the task force nerve center, the country's indefatigable youth are proving their worth in the most difficult of times. I am confident that they will lead the charge to recovery and prosperity. **FD**

HAMAD ALMAHMEED is undersecretary of research and public policy at the Office of the First Deputy Prime Minister of Bahrain and currently heads the war room established to combat COVID-19 in Bahrain.

How to Make America More Equal

A leading progressive economist proposes steps to transform the US economy at this critical juncture

Heather Boushey



PHOTO: MARK SILVA

THE COVID-19 PANDEMIC is shining an unforgiving spotlight on the many inequalities in the United States, demonstrating how pervasive they are and that they put the nation at risk for other systemic shocks. To stop the spread of the virus and emerge from a crushing recession, these fundamental inequalities must be addressed. Otherwise not only is a slow economic recovery more than likely, but the odds grow that the next shock—health or otherwise—will again throw millions out of work and subject their families to fear, hunger, and lasting economic scars.

Before the pandemic, the United States was in the midst of a decade-long recovery from the Great Recession, which began in December 2007. But not all Americans experienced that recovery in the same way. The top 1 percent

emerged as strong as ever in terms of wealth, regaining what they had lost by 2012. As of March 2020, however, US working- and middle-class families had barely recovered their lost wealth, and many families, especially those of color, never recovered. Even amid a strong recovery, the United States was burdened by extraordinary economic and racial inequality.

Today, stark differences among US workers and their families make the current recovery neither U- nor V-shaped but rather one that resembles a sideways Y, with those benefiting from a stock market recovery or employed standing on the branch of the Y that points up unaffected by the recession, and those on the bottom branch facing perhaps years of struggle. And there are stark differences of race and class between the upper and lower legs of that sideways Y. This recession provides an opportunity for policymakers to address these inequalities with transformative policy changes to produce a healthier and more resilient economy that delivers strong, stable, and broad-based growth and prosperity.

Disparities abound

Workers and their families on the wrong side of the many US economic disparities are there for several reasons—including a stubborn reliance by policymakers on markets to do the work of government and the racism and sexism, sometimes written into law, that blind policymakers to injustice and to economic sense.

This article will identify specific causes of economic inequality in the United States and then explain how to address them.

Markets: Beginning in the 1980s, conservative economists began to make the case that unfettered markets were the only way to deliver sustained growth and well-being. This ideology, with modest exceptions, has governed US economic policymaking ever since. But it has not

delivered. Moreover, the supposedly neutral and fair rules that govern markets have in fact shifted economic risk away from corporations and the wealthy toward medium- and low-income families. This has never been more apparent than now, when the coronavirus has caused mostly low-income workers to either lose their jobs or have to work in employment that exposes them to the risk of contracting and spreading the disease.

Tax cuts, weak public investment: President Donald Trump’s 2017 tax cut, which benefited largely the better-off, is only the most recent manifestation of a tax-cutting philosophy that has governed US fiscal policy for decades. These measures have starved the nation of resources that could be used to fund basic governmental functions and critical public investments. As a result, public investment as a share of GDP—the value of goods and services produced in the United States in a year—has fallen to its lowest level since 1947.

Eroding worker power: The ability of US workers to bargain for higher wages and benefits and better and safer working conditions has been sapped by years of anti-union court and administrative rulings. And in 27 states, right-to-work laws make it harder for unions to form. As employers gained the upper hand, wages stagnated, and worker safety has suffered, especially during the pandemic.

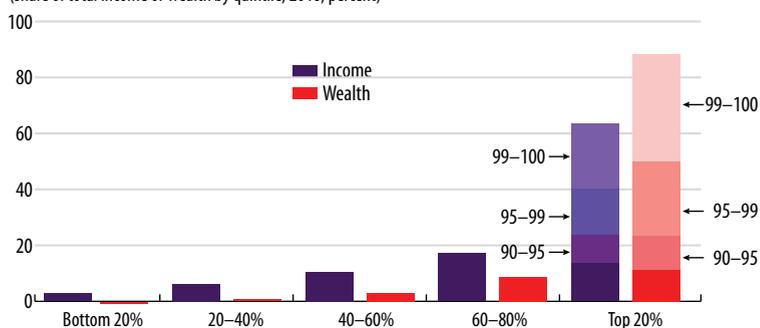
Economic concentration: US antitrust policy and enforcement have allowed industries across the United States to become increasingly concentrated, giving large businesses market power to set prices, eliminate competitors, suppress wages, and hobble innovation. What’s more, there is evidence that this is dampening firms’ investment. Some are thriving in the midst of—indeed because of—the pandemic, while small businesses struggle to survive.

Measuring the economy: Before the 1980s, when US economic inequality began its upward trajectory, growth in GDP was a reasonably reliable indicator of the well-being of most Americans. But as economic inequality has risen close to its 1920 levels, the benefits of GDP growth have gone disproportionately to the top 10 percent of earners, while income growth for the vast majority of people has been slower than that of GDP—in some cases, none

Concentration of wealth

The distribution of income and wealth in the United States is skewed toward the wealthiest 5 percent.

(share of total income or wealth by quintile, 2016, percent)



Source: Author’s calculations, using the Federal Reserve Board’s “Survey of Consumer Finances” (2017).

Note: Income shares are computed with respect to quintiles of the income distribution, and wealth shares are computed with respect to quintiles of the wealth distribution.

at all. For that reason, GDP reflects mostly how the better-off are doing. As GDP recovers in the coming months, therefore, it will give policymakers false signals about whether average Americans are recovering.

Racism and sexism: The disparate health and economic consequences of the coronavirus recession reinforce the reality and history of racism and sexism in the United States. The median earnings for a Black household are 59 percent of those of a White household, and for men and women of all races, a median woman earns 81 cents for every dollar earned by a man. The results of job segregation are apparent, with health care and service workers on the pandemic front lines. Despite being essential, some of these jobs—in which women and minorities are overrepresented—are the least likely to have benefits such as paid sick time or employer-provided health insurance.

These problems are largely the result of decades of failed policies supported more by ideology than evidence. A distorted economic narrative that lionizes markets has led to the weakening of public institutions and the acceptability of less funding for democratic institutions of governance, greater economic concentration, reduced worker power, and the discriminatory effect of laissez-faire labor rules. The role of

Transforming the US economy requires policymakers to recognize that markets cannot perform the work of government.

policy choices in arranging the market structure is unmistakable and enduring.

Building a strong, equitable economy

Transforming the US economy requires policymakers to recognize that markets cannot perform the work of government.

The first step is to eradicate COVID-19. It has to be the first priority, not only for public health but also for the US economy. Beyond that, encouraging a strong and sustained recovery that delivers broadly shared growth also requires the United States to address its long-term problems: a costly health system that leaves millions with insufficient care, an education system designed not to end inequality but to preserve it, lack of basic economic stability for most families, and climate change.

Major public investments are required to deal with each issue. While it is not necessary to worry now about paying for them, the nation should put in place significant tax increases, primarily or entirely on the wealthy, to begin investing in these long-term solutions. The country should tax the enormous wealth concentrated at the top that is being saved, or kept overseas, and not being invested in the economy or in solving societal problems (see chart).

Policymakers also must address the economic concentration that has created monopsony power (a single or handful of buyers or employers) that keeps wages down and threatens small businesses, which are the lifeblood of innovation and economic dynamism. The first step is to ensure that the recession and the programs designed to help businesses survive the crisis don't exacerbate this trend. Thus far, federal policies to address the economic downturn have provided far greater aid to large businesses than to small ones.

Policymakers also must ensure that federal government funds are directed to productive uses that support workers and customers, and not to

rewarding wealthy shareholders. Corporations receiving aid should be barred from issuing dividends and carrying out stock buybacks, and banks should be required to suspend capital distributions during the crisis to support lending to the real economy.

Even more fundamental to addressing excessive concentration is strengthening US antitrust enforcement, which is weaker than it has been in decades. The antitrust laws themselves also need to be bolstered, particularly with respect to the rules governing mergers and exclusionary conduct. Legislators should consider creating a digital regulatory authority to enforce privacy laws and enhance competition in digital markets.

The country also needs to better understand who benefits, or does not, from recovery policies and what further actions are needed. Because overall GDP is not up to that task, income must be disaggregated at all levels to measure progress or lack thereof for all groups—which would enable the United States to lay the groundwork for understanding what other actions are needed to ensure more people benefit from the recovery.

US economic inequality is firmly tied to the issue of racial inequality. The unmistakable message of the Black Lives Matter movement is that Americans of color never have been able to trust government to act on their behalf. Government must work to ensure that low-income Black, Latinx, and Native American people can both develop and deploy their talents and skills in the economy.

Taxing wealth, which is disproportionately owned by White Americans, is one solution. But for that to address racial inequities adequately, the proceeds of the wealth tax must benefit the majority of the nonwealthy. The proceeds must be directed to the most urgently needed investments, such as in COVID-19 testing and treatment in communities of color, in policies that expressly and progressively support low-wage workers and care

workers, and in engagement with minority-owned small businesses. Otherwise, pervasive inequities will be further entrenched.

A significant reason for the gender earnings gap is the lack of a national paid family and medical leave policy and the absence of a national program to ensure that families have access to quality, affordable childcare and prekindergarten education. Families with children that do not have access to paid leave and childcare—or cannot afford them—have little choice but to put careers on hold. This happens to women far more often than to men. Legislation has been introduced in Congress to accomplish both of these goals, and these measures should get serious consideration in the next Congress.

Reason for optimism

There is reason to believe that the United States can enact policies to transform its economy and

society. Until recently, some of the conversations taking place among policymakers and around dinner tables—inspired by COVID-19, the deep recession, the Black Lives Matter movement, and the recent presidential election—would have been relegated to the edges of public debate. Today that is not the case.

Yet the US political system is beset by deep partisanship and a constitutional and electoral system that makes it far easier to block transformative policies than enact them. But I am an optimist, and I still believe that the country could be at an inflection point, with the advantage going to those who develop and advocate progressive policies to reduce inequality and build an economy that produces strong, stable, and broad-based growth. **FD**

HEATHER BOUSHEY, president and chief executive officer of the Washington Center for Equitable Growth, is the author of *Unbound: How Inequality Constricts Our Economy and What We Can Do About It*. Follow her on Twitter: @HBoushey.



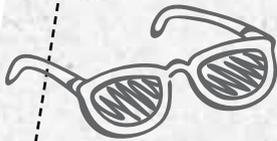
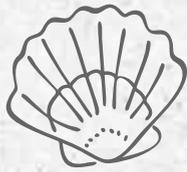


WISH YOU WERE HERE

Tourism-dependent economies
are among those harmed the
most by the pandemic

Adam Behsudi





Before COVID-19, travel and tourism had become one of the most important sectors in the world economy, accounting for 10 percent of global GDP and more than 320 million jobs worldwide.

In 1950, at the dawn of the jet age, just 25 million people took foreign trips. By 2019, that number had reached 1.5 billion, and the travel and tourism sector had grown to almost too-big-to-fail proportions for many economies.

The global pandemic, the first of its scale in a new era of interconnectedness, has put 100 million jobs at risk, many in micro, small, and medium-sized enterprises that employ a high share of women, who represent 54 percent of the tourism workforce, according to the United Nations World Tourism Organization (UNWTO).

Tourism-dependent countries will likely feel the negative impacts of the crisis for much longer than other economies. Contact-intensive services key to the tourism and travel sectors are disproportionately affected by the pandemic and will continue to struggle until people feel safe to travel en masse again.

“There is no way we can grow our way out of this hole we are in,” Irwin LaRocque, secretary-general of the Caribbean Community (CARICOM), said at a virtual event in September.

From the white sand beaches of the Caribbean, Seychelles, Mauritius, and the Pacific to the back streets of Bangkok, to Africa’s sweeping national parks, countries are grappling with how to lure back visitors while avoiding new outbreaks of infection. The solutions range from wooing the ultrarich who can quarantine on their yachts to inviting people to stay for periods of up to a year and work virtually while enjoying a tropical view.

Tourism receipts worldwide are not expected to recover to 2019 levels until 2023. In the first half of this year, tourist arrivals fell globally by more than 65 percent, with a near halt since April—compared with 8 percent during the global financial crisis and 17 percent amid the SARS epidemic of 2003, according to ongoing IMF research on tourism in a post-pandemic world.

The October *World Economic Outlook* projected the global economy would contract by 4.4 percent in 2020. The shock in tourism-dependent economies will be far worse. Real GDP among African countries dependent on tourism will shrink by 12 percent. Among tourism-dependent Caribbean nations, the decline will also reach 12 percent. Pacific island nations such as Fiji could see real GDP shrink by a staggering 21 percent in 2020.

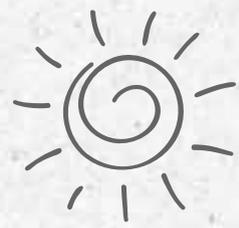
Nor is the economic hit limited to the most tourism-dependent countries. In the United States, Hawaii saw one in every six jobs vanish by August. In Florida, where tourism accounts for up to 15 percent of the state’s revenue, officials said it will take up to three years for the industry to recover.

Among G20 countries, the hospitality and travel sectors make up 10 percent of employment and 9.5 percent of GDP on average, with the GDP share reaching 14 percent or more in Italy, Mexico, and Spain. A six-month disruption to activity could directly reduce GDP between 2.5 percent and 3.5 percent across all G20 countries, according to a recent IMF paper.

Managing the revenue gap

In Barbados and Seychelles, as in many other tourism-dependent nations, the pandemic brought the industry to a virtual standstill. After successfully halting local transmission of the virus, the authorities





reopened their island countries for international tourists in July. Still, arrivals in August were down almost 90 percent relative to previous years, drying up a vital stream of government revenue.

Barbados had gone into the crisis with good economic fundamentals, as a result of an IMF-supported economic reform program that helped stabilize debt, build reserves, and consolidate its fiscal position just before the crisis struck. The IMF augmented its Extended Fund Facility program by about \$90 million, or about 2 percent of GDP, to help finance the emerging fiscal deficit as a result of plummeting revenues from tourism-related activity and increasing COVID-related expenditures.

“The longer this lasts, the more difficult it gets to maintain,” says Kevin Greenidge, senior technical advisor to Barbados Prime Minister Mia Mottley. “What we don’t want to do is operate policy-wise in a manner that will jeopardize the gains in terms of the fundamentals that we have made.”

On the other side of the world, Seychelles, a country that entered the crisis from a similar position of strength, will still be challenged to return to medium-term fiscal sustainability without significant support. Just before the crisis struck, the government had rebuilt international reserves and consolidated its fiscal positions. Even so, the ongoing pandemic struck the Indian Ocean island nation very hard as tourism revenues fell while COVID-related expenditures increased.

“It is too early to determine whether the crisis represents a permanent shock and how it will shape the tourism industry going forward,” says Boriana Yontcheva, the IMF’s mission chief to Seychelles. “Given the large uncertainties surrounding the recovery of the sector, innovative structural policies will be necessary to adapt to the new normal.”

All over the world, tourism-dependent economies are working to finance a broad range of policy

measures to soften the impact of plummeting tourism revenues on households and businesses. Cash transfers, grants, tax relief, payroll support, and loan guarantees have been deployed. Banks have also halted loan repayments in some cases. Some countries have focused support on informal workers, who tend to be concentrated in the tourism sector and are highly vulnerable.

An analysis of the tourism industry by McKinsey & Company says that multiyear recovery of tourism demand to 2019 levels will require experimenting with new financing mechanisms.

The consulting firm analyzed stimulus packages across 24 economies totaling \$100 billion in direct aid to the tourism industry and \$300 billion in aid across other sectors with significant involvement in tourism. Most direct stimulus was in the form of grants, debt relief, and aid to small and medium-sized enterprises and airlines. The firm recommends new ways to support the industry, including revenue-sharing mechanisms among hotels that compete for the same market segment, such as a stretch of beachfront, and government-backed equity funds for tourism-related businesses.

Development challenge

The crisis has crystallized the importance of tourism as a development pathway for many countries to decrease poverty and improve their economies. In sub-Saharan Africa, the development of tourism has been a key driver in closing the gap between poor and rich countries, with tourism-dependent countries averaging real per capita GDP growth of 2.4 percent between 1990 and 2019—significantly faster than non-tourism-dependent countries in the region, according to IMF staff.

Smaller, tourism-dependent nations are in many ways locked into their economic destinies. Among small island nations, there are few, if any, alternative sectors to which they can shift labor and capital.

Seychelles, for example, has benefited from increases in tuna exports during the COVID-19 period, which have somewhat offset tourism losses, but these additional earnings remain a fraction of tourism receipts. The government is also carrying out a plan to pay wages to displaced tourism-sector workers while offering opportunities for retraining.

Meanwhile, the government in Barbados is trying to maintain social spending and reprioritize capital spending to create jobs, at least temporarily,



in nontourism sectors such as agriculture and infrastructure development.

The Caribbean Hotel and Tourism Association has projected that as many as 60 percent of the 30,000 new hotel rooms that were in the planning or construction phase throughout the Caribbean region will not be completed as a result of the crisis.

Still, the crisis is being viewed as an opportunity to improve the industry in the medium and long term through greater digitalization and environmental sustainability. The UNWTO has encouraged support for worker training in order to build digital skills for harnessing the value of big data, data analytics, and artificial intelligence. Recovery should be leveraged to improve the industry's efficient use of energy and water, waste management, and sustainable sourcing of food.

"In a sector that employs 1 in 10 people globally, harnessing innovation and digitalization, embracing local values, and creating decent jobs for all—especially for youth, women, and the most vulnerable groups in our societies—could be at the forefront of tourism's recovery," says UNWTO Secretary-General Zurab Pololikashvili.

Adjusting to a new normal

As the immediate impact of lockdowns and containment measures eased during the second half of 2020, countries started looking for a balance.

Thailand, Seychelles, and other countries approved programs that would admit tourists from "lower-risk" countries with special quarantine requirements. Fiji has created "blue lanes" that will allow seafaring visitors to arrive on yachts and quarantine at sea before they unleash "the immense economic impact they carry aboard," Prime Minister Frank Bainimarama declared on Twitter. St. Lucia requires a negative COVID-19 test no more than seven days before arrival. Australia created a "travel bubble" that will eliminate quarantine requirements for travelers from New Zealand. CARICOM countries have also created a "regional travel bubble" that eliminates testing and quarantine for people traveling from countries within the bubble.

In a new era of remote work, countries and territories such as Barbados, Estonia, Georgia, Antigua and Barbuda, Aruba, and the Cayman Islands offer new long-term permits, lasting up to 12 months in some places, to entice foreign visitors to bring their virtual offices with them while spending in local economies.

Japan, which had seen its international arrivals triple from 2013 to 2018, started lifting border closures for travelers from certain countries at the end of October. To accommodate a post-pandemic tourism rebound, an IMF Working Paper recommends that the government continue a trend of relaxing visa requirements, draw visitors away from urban centers to less populated regions of the country, and complement a tourism comeback with improvements to labor resources and tourism infrastructure.

The World Tourism and Travel Council in a report on the future of the industry said the pandemic has shifted travelers' focus to domestic trips or nature and outdoor destinations. Travel will largely be "kickstarted by the less risk averse travelers and early adopters, from adventure travelers and backpackers to surfers and mountain climbers," the report says.

Leisure travel will lead the comeback in the tourism and travel sector. Business travel, a crucial

It is too early to determine whether the crisis represents a permanent shock.

source of revenue for hotels and airlines, could see a permanent shift or may come back only in phases based on proximity, reason for travel, and sector.

In the end, the return of tourism will likely hinge on what will be a deeply personal decision for many people as they weigh the risk of falling ill against the necessity of travel. The private sector backed by some tourism-dependent nations is developing global protocols for various travel industries, including a call for more rapid testing at airports to boost confidence in traveling.

"The fact is people do not feel comfortable traveling. We have not put in the necessary protocols to give them that comfort," St. Lucia Prime Minister Allen Chastanet said at a September virtual event. "After 9/11, the TSA [Transportation Security Administration] and other security agencies around the world did a fantastic job of developing protocols that regained the public's confidence to travel, and sadly with this pandemic we haven't done that." **FD**

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shaping

A DATA ECONOMY

The world needs a new system of governance for the buying and selling of data

Murat Sonmez



Robots are rolling through hospital wards and warehouses, decontaminating rooms with ultraviolet light. Voice-activated and -connected devices are helping people with limited mobility and chronic conditions. Medical professionals are using artificial intelligence (AI) to speed up diagnosis and treatment. Drones are delivering blood on demand, cutting delivery times from hours to minutes and eliminating waste at the same time.

These technologies collectively represent the Fourth Industrial Revolution (4IR)—the recent explosion of computing power combined with connectivity that has led to the fusion of our physical and digital worlds. The 4IR has changed how most of society interacts with and uses technology. It is developing at a speed and scale unlike anything we have ever seen—and without any constraints or guidelines.

Technology was already speeding ahead when the global pandemic began. Now it is in even higher gear. More than 80 percent of business executives are accelerating plans to digitalize work processes and deploy new technologies. By 2025, employers will divide work equally between humans and machines.

Yet the underlying challenges of this revolution remain unaltered. How do we harness the potential of this technology while mitigating the risks? How can we ensure that all of society benefits, and not just the privileged few?

Harnessing data's economic power

Data is the key to unlocking the potential of the 4IR. It fuels AI, precision medicine, robotics, and the Internet of Things. How we use data and how we safeguard it will determine the ultimate success or failure of the revolution. But there are fundamental questions that need to be answered to move forward: Who owns data? What can you do with it? Who derives the economic benefits?

We have already seen the economic value of data through the valuation of technology companies eclipsing the size of most of the world's economies. What if we could find a transparent and equitable mechanism to unlock the economic value of data for individuals and organizations and do it while protecting the privacy of the data's owners? We could not only unleash the power of data in addressing critical challenges in health, agriculture, transportation, and the environment but also create a revenue stream for the owners of the data.

There is a need for policies that are forward-looking and enabling rather than backward-looking and punitive. To move forward, we need a new data operating system (data OS) for the governance of 4IR.

First, we need to reimagine the notice and consent mechanisms that allow owners of data to specify what purposes their data can be used for, for how long, and whether the owners should be paid. These rules can be attached to data sets—much like media digital rights management—so that they cannot be used out of bounds.

Second, we need a certification mechanism for applications requiring the use of various data sets. Data-mining algorithms should be trustworthy. Think of it as a 4IR app store, managed by a trusted agency that certifies the owners of these applications and their compliance with the new consent protocols and restrictions.

Third, we need a transparent mechanism for the valuation of data. On its own, data does not have economic value; it is similar to a commodity such as sugar, cotton, or coffee, with prices driven by supply and demand. We could declare data a tradable asset through such an exchange mechanism, using market forces to price it for specific uses based on demand. Unlike commodities, however, data is not a single-use asset; it can be used repeatedly and for a variety of purposes.

Finally, we need a cross-border data flow and digital remittance mechanism. Countries could draw up bilateral treaties agreeing to share data across borders for purposes they agree to, pooling their data assets via a flexible, yet secure, mechanism. Cross-border payments can be facilitated by digital means, ensuring timely payment to the owners. These owners pay taxes as they receive income, and the users of data pay taxes at the moment of consumption in their own jurisdictions, yielding a transparent and fair taxation system and a new source of income for governments.

This four-tiered approach has the potential not only to generate a continuous income stream for individuals, but it also allows companies holding onto vast amounts of data to use transparent market-to-market mechanisms and introduce a balance sheet asset benefiting all stakeholders.

Such a system would enable us to reverse-engineer breakdowns and glitches before they occur. It would alert us to the risks ahead, identify appropriate responses, and thus help us prevent an unwanted future. If designed correctly, the new operating system could boost economic growth and tackle the challenges ahead while minimizing negative impacts on society.

This scenario is not a far-fetched dream. There are three case studies of 4IR technologies working to solve some of the world's biggest challenges: treating rare diseases, securing enough food for the planet, and building trust where it has been broken. But, as highlighted below, there are a few crucial pieces missing when it comes to accelerating and scaling their benefits globally.

Treating rare diseases

A compelling example of the benefits of the new data OS involves rare diseases. Worldwide, 400 million are affected by a rare disease, more than cancer and AIDS combined. There are 7,000 identified rare diseases so far, often with broad symptoms.

This means not only lengthy and difficult diagnosis but also a lack of available data for treatment, given that only a handful of people living in the same country suffer from the same disease. National approaches to rare-disease research fall short because of lack of access to a broader international pool of data. In fact, treatments underway in one country may be unknown to patients in another.

A more integrated system designed to gather and share data on a global scale would enable individual countries and hospitals to diagnose and start treating rare diseases faster. More data can lead to better outcomes.

With an estimated 15.2 million people expected to have clinical genomic testing for a rare condition within the next five years, we urgently need to evaluate the potential benefits of developing a system that can share the data without compromising privacy. One way would be to adopt a federated database system, allowing autonomous databases to interconnect without merging. Users of a federated database can access voluntarily shared information through a uniform interface, but each data set remains under local control and security.

Weak genomic data policies expose communities to the risk that certain individuals or companies will extract genetic and biological information and use it for their own benefit rather than for the greater good. There is also the less nefarious risk that people will simply mishandle this sensitive data absent protection policies and standards. These risks can be minimized through the development of ethical policies, regulations, and standards that support scientists and other researchers but guard against abuses. A federated data system ticks all four boxes of the data OS and has the potential to accelerate benefits safely and to all of society.

Feeding the world

Headlines about AI often highlight the dangers and the problem of inclusivity. Discussions are necessary on the ethical use of facial recognition, how companies can ensure that algorithms are not perpetuating bias, and how self-driving cars can be safe for drivers and pedestrians. Less noticed is a quiet revolution underway to develop AI to combat world hunger and the role data plays in keeping us from sleepwalking into a global food crisis.

The food challenge ahead is almost overwhelming. Current unsustainable agricultural practices could lead to the degradation of 95 percent of the world's land

There are fundamental questions to be answered: Who owns data? What can you do with it? Who derives the economic benefit?

by 2050. Some 2 billion people do not have access to safe, nutritious, and adequate food. To address these challenges a comprehensive transformation of food systems is needed. And 4IR technology can help.

Some agricultural AI start-ups are training algorithms on large new data sets to improve farms' performance. Tel Aviv-based Prospera, for example, collects 50 million data points from 4,700 fields every day. The company then uses AI to identify pest and disease outbreaks and to uncover new opportunities to boost yields, cut pollution, and eliminate waste.

Other companies are developing AI tools to hasten the transition to plant-based meat. NotCo of Chile and Fazenda Futuro of Brazil have both developed AI tools that analyze vast amounts of plant data to identify the best approaches to replicating the taste and texture of meat. Firmenich has introduced the world's first flavor made entirely with AI. With meat production accounting for almost 50 percent of the world's agricultural emissions, the growing shift to plant-based meat is also poised to yield enormous environmental benefits.

These case studies show that companies around the world are capitalizing on the benefits of 4IR technologies, yet in many parts of the world, data is trapped behind borders. Our food challenge is global, and to ensure that we have enough food to feed the planet we must unleash the full power of AI. That means sharing data across borders and removing silos.

A decoupled architecture such as a data OS could help countries and companies share their development of food solutions and, potentially, financially reward them for sharing the data. If we can define data ownership—including the right to use the data and reap the rewards—we could scale up projects on a global level.

Building trust

Underpinning progress across 4IR technologies, whether it's diagnosing rare diseases or improving agricultural yields, is trust. Without trust in the data we are sharing, the system could collapse. If we are sharing data across borders and across industries, how can we ensure that the information is authentic?

One obvious answer is to use blockchain or distributed ledger technology—this is a tamper-proof

digital bookkeeping system in which “blocks” of time-stamped transactions are recorded and distributed in an accessible database. Blockchain's peer-to-peer security architecture, transparency, and rapidly evolving features—such as smart contracts and tokens—make it an ideal platform for building a system of accurate and trusted policies.

This system is already used around the world by companies and countries trying to build trust in areas where this has been a challenge in the past. The benefits can be seen at StaTwig, an India-based company that has piloted the use of blockchain ledgers to track deliveries of vaccines to children. Multinational brewer Anheuser-Busch InBev has used the technology in Zambia to facilitate transparent pricing for locally sourced crops such as cassava, for which farmers had been historically underpaid. Colombia is exploring how blockchain might help root out corruption by improving oversight in public procurement.

Blockchain technology is still in its early phases; however, it is proving to be a path forward for building trust where it is needed most. If we can show that the data we are using is trustworthy and accurate, we can expand and build on its uses.

Benefiting people and planet

Right now, 4IR technologies are evolving without any guidelines. The development and application of these technologies should benefit people and the planet. Harnessing this revolution requires cooperation between all stakeholders: government officials, business leaders, members of civil society, and international organizations.

By acting now, government leaders can keep their economies competitive and boost the well-being of their citizens. Future-oriented technology policies that incorporate the framework of the new data OS will help build trust and accelerate the right kind of progress. A sustainable recovery will ensure that individuals can live free, prosperous lives with fair access to the rich opportunities of a globalized market. **FD**

MURAT SONMEZ is the head of the Centre for the Fourth Industrial Revolution Network and managing director of the World Economic Forum.

REBUILDING WORKER POWER

Systematic erosion of workers' power relative to their employers has suppressed US wages

Lawrence Mishel



Politicians in both US political parties now acknowledge wage stagnation and have adopted narratives claiming that “the system is rigged.” Some focus on the number of immigrants and on what they see as unfair trade with China. Others focus on monopolies charging higher prices and reaping huge profits. There is, however, no agreement on what, and who, rigged the system.

In fact, as my new paper with colleagues Josh Bivens and Heidi Shierholz, “Explaining Wage Suppression” shows, wages have been kept low in the United States because workers have been systematically disempowered as a result of corporate practices and economic policies that were adopted—or reforms that were blocked—at the behest of business and the wealthy. This lack of worker power has caused wage suppression, increased wage inequality, and exacerbated racial disparities. The specific mechanisms behind this shift in power are excessive unemployment, globalization, eroded labor standards and their lack of enforcement, weakened collective bargaining, and corporate structure changes that disadvantage workers. To reestablish patterns of growth that benefit the vast majority requires new policies that center on rebuilding worker power.

Over the past four decades, the earnings of the top 1 percent and 0.1 percent increased 158 percent and 341 percent, respectively. While economy-wide productivity rose almost 70 percent, hourly compensation for typical workers increased less than 12 percent. And since 2000, labor’s share of income has steadily eroded.

These wage patterns and economic outcomes can be explained by the cumulative effect of the following policy decisions and corporate practices, which have systematically undercut the bargaining power of the majority of workers.

Contractionary policy

Monetary, fiscal, and trade policies have led to excessive unemployment, defined as unemployment above full employment. Since 1979, Federal Reserve Board policymakers have worried too much about inflation risks and have not embraced the benefits of full employment. This approach has created excessive unemployment, which has hurt low- and moderate-wage workers the most, an impact concentrated among Black workers.

If we had maintained full employment of 5 percent between 1979 and 2007, median wages

would have been between 18 and 28 percent higher by 2007 (Bivens and Zipperer 2018). The corrosive effects of the extended period of high unemployment following the Great Recession, caused by austere federal and state fiscal policy, compounded wage problems further. This excessive unemployment alone explains the 9 percentage point increase in the wage gap between Black and White workers since 1979.

Globalization on capital’s terms

Globalization has proceeded, profoundly shaped by intentional policy decisions that maximized its wage-suppressing effects, with Black and Latinx workers disproportionately negatively affected. Bivens (2013) finds that trade flows with low-wage nations were likely reducing wages for workers without a four-year college degree by roughly 5.6 percent—almost a \$2,000 annualized loss. Other studies confirm this finding.

Globalization driven solely by technological change and political changes in our trading partners was always likely to depress wage growth. But US policy failures significantly amplified these damaging effects: failing to secure reasonable compensation or a countervailing domestic boost to bargaining power for those on the losing end; failing to address currency misalignments causing large trade deficits and manufacturing job losses; and passing trade agreements that undercut workers’ economic leverage while protecting corporate profits. This encouraged US-based employers to substitute imports for the production formerly carried out by US workers.

Weakened unions

The key wage-setting institution for middle-wage workers has been collective bargaining, so the erosion of union representation has been the major factor depressing wage growth in the middle for men (whose unionization fell far more than among women). That collective bargaining leads to more equal wage outcomes, and declines lead to inequality, was firmly established in academic literature published in the mid-1980s. Fortin, Lemieux, and Lloyd (2019) show that union erosion explains from 29 percent to 37 percent of male wage inequality growth and 37 percent of the growing gap between high-wage and middle-wage men. This implies that eroded unions lowered the male median wage by 0.33 percentage point each year. There was a smaller



impact on women's wage inequality, explaining roughly 10 to 13 percent of the overall growth and 13 percent of the growth of the top-half wage gap.

The decline in private sector union coverage (from about 23 percent in 1979 to just 7 percent in 2019) can be explained primarily by changes in corporate practices and legal judgments that undercut workers' ability to unionize and bargain. Polling evidence points to a huge unmet demand for collective bargaining: in 2017, almost half of nonunion workers wanted collective bargaining, an underrepresentation equivalent to approximately 58 million workers.

Weakened labor standards

A multidimensional reduction in labor standards and their enforcement has helped suppress wages.

The dramatic failure to maintain an appropriate value of the minimum wage has undercut the earnings of the bottom third of workers, heavily affecting Black, Hispanic, and women workers. The federal minimum wage in 2019 was 25 percent below its peak value in 1968, even though productivity doubled. The erosion of the minimum wage explains most of the shift in the wage gap between low- and middle-wage workers.

Overtime protections have also been weakened. While nearly half of salaried workers in 1975 were covered by the overtime threshold—salaried workers below this level automatically qualify for overtime—that share had fallen to just 10 percent of salaried workers by 2014.

Reduced enforcement of labor standards compounds wage problems by allowing extensive theft of wages: wage theft occurs when employers fail to pay workers the wages they are entitled to, including paying below minimum wage or failing to pay overtime. Low-wage workers lost more than \$50 billion to wage theft in 2016, far exceeding the loss of stolen property in robberies. Wage theft falls hardest on low-wage and immigrant workers and represents about 3 percent of the total wages of the bottom 60 percent of earners. It is not possible to gauge how much wage theft has grown over four decades, but experts believe that it is now epidemic—as such, it is reasonable to say that an additional 1.5 to 2 percent of wages are now lost as a result of wage theft compared with 1979.

Immigration policy generates labor-standard-free zones in the labor market. Roughly 6 percent of the workforce, including undocumented and guest

workers, lacks full labor protections from employers' exercise of market power. This growth of an exploitable immigrant workforce undercuts wage and employment standards and puts downward pressure on wages. Note that the focus is not on immigrants taking jobs from others; rather, the focus is on weak labor standards and protections that leave immigrants open to exploitation.

Employers have also come up with innovative agreements that workers are forced to sign, limiting their job prospects and their ability to challenge employers in courts and with government agencies: these agreements suppress wages, as they are intended to do. Noncompete agreements, for instance, bar workers at one company from going to work for a competing business and now dim the prospects of between 28 percent and 46 percent of private sector workers. Forced arbitration provisions compel workers to take discrimination charges, wage and hour law violations, and other matters to corporate-dominated arbitration—frequently as individuals and not as part of a collective action—rather than to courts. These agreements covered 56 percent of nonunion private sector workers in 2018.

Millions of workers are being deliberately misclassified as independent contractors when they are actually employees, denying them social insurance protections, workplace protections (anti-discrimination, collective bargaining), and health and pension benefits. This is the case not only with leading ride-sharing firms such as Lyft and Uber but also in trucking, construction, and janitorial services.

Corporate structures

Changes in corporate structure have shifted power, and income, between firms and between employers and employees.

The most pronounced way employers have shaped labor market outcomes to their advantage is through “fissuring.” Fissuring is domestic outsourcing with dominant firms maintaining tight controls over prices and outcomes via standards and other mechanisms. This redistributes profits to the dominant firm and worsens wages and working conditions at the subcontracted firms. Between a fifth and a third of the economy is characterized by fissuring, a much larger share than four decades ago, when it was likely half that. A speculative gauge of the impact of fissuring is that a shift of 15 percentage points of employment into fissured

workplaces where workers earn 15 percent less would imply a 2.25 percent overall decline in wages.

Major firms increasingly coerce their suppliers into giving them low prices. Wilmers (2018) quantified dominant buyers' ability to squeeze supplier profits and lower wages. The share of nonfinance suppliers' revenue obtained from dominant buyers increased from 5 percent in 1979 to 19 percent in 2014 overall, including from 6 percent to 26 percent in manufacturing and logistics. Wilmers estimates that this lowered annual earnings by 3.4 percentage points among publicly owned nonfinancial firms. The impact among low- and moderate-wage workers was almost surely larger.

Congress deregulated airlines, trucking, interstate busing, telecommunications, utilities, and railroads in the late 1970s, which lowered the compensation of blue-collar workers. Nine percent of the workforce in the 1980s was affected by industry deregulation, which eroded middle-wage jobs and lowered wages so much that it explains the almost 7 percent higher male wage inequality between 1979 and 1988.

Both monopoly (dominance of a few sellers in a product market) and employer concentration (a few employers dominating the job market) lead to lower wages, but these factors have not significantly suppressed wages.

Employer concentration affects primarily rural areas and does not seem to have grown over the past four decades. Labor's share of income has declined, but it is not evident that this is the result of monopoly profits rather than eroded worker power. The rise in labor's share of income as unemployment fell during the recent recovery suggests a strong role for eroded workers' power, since monopoly power does not necessarily decline with lower unemployment. The enormous profits of the five big tech firms do represent a monopoly problem, although the role in wage suppression is difficult to assess and has not been explored.

Road ahead

The majority of people will benefit substantially from future growth only if policies are enacted that center on restoring bargaining power to the typical worker. Keep unemployment low. Provide adequate labor standards, including family leave, sick leave, and other policies. Effectively enforce laws. Enable worker options by eliminating forced arbitration

and noncompete agreements. Rebuild collective bargaining. These policies will not only reestablish economic fairness, they will also invigorate civic engagement and democracy and promote freedom in and outside the workplace.

Wages have been kept low in the United States because workers have been systematically disempowered.

The conventional wisdom of much economic punditry has comforted the elite for many decades by proclaiming that the wage stagnation of the past four decades was simply the unfortunate by-product of economically progressive forces, such as globalization and automation. The *prima facie* case for an automation explanation has been lacking for two decades: college graduate wages have faltered, and the rate of automation has been historically low. Globalization could have been handled differently. Moreover, this comforting narrative conveniently overlooks the superlative growth of income for executives and others in the top 1 percent, which did not result from their special skills or from automation. The policy debate in both parties has moved beyond this "automation-driven skills deficit" narrative, and there is now wide agreement that politics and policy will determine whether workers get a fairer share of economic growth. **FD**

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THE ACCIDENTAL ECONOMIST

*Hyun-Sung Khang
profiles Michigan
State University's
Lisa D. Cook, who
shows how racism
and sexism hurt us all*

Lisa D. Cook was two or three years old when the issue of race first hit her—literally. Kids at her Georgia nursery school called her a racial epithet and attacked her, leaving a lifelong scar above her right eye.

“It wasn’t until much later that I understood that that word was associated with violence, with racial violence, and its true history,” says Cook. Since then, the economist has embraced the issue of race to pursue research at the intersection of the African-American lived experience and macroeconomics.

In a profession lambasted for its sexism and racism, Cook stands out for her gender, her ethnicity, and her chosen areas of research. Among her conclusions is that racism and sexism create a huge drag on the world’s largest economy.

Against the backdrop of the Black Lives Matter and #MeToo movements, her findings have forced the issues of race and gender higher up the economics agenda, challenging a profession under fire on both scores. She has also become known for her work on development, financial institutions and markets, and economic history.

“Lisa has been willing to take the risk of not getting the professional plaudits she deserves by pursuing research in areas that have not been plumbed by anyone yet,” says William A. Darity Jr., a professor of economics and African American studies at Duke University in Durham, North Carolina. “People are now acknowledging the significance of her contributions.”

Now a professor of economics and international relations at Michigan State University in East Lansing, Cook has published papers on subjects ranging from the impact of lynchings in slowing overall economic activity, to how having a distinctively black name positively affects longevity, to the economic loss of excluding African Americans and women from the innovation process.

Her academic background includes a bachelor’s degree from the historically Black Spelman College in Atlanta, Georgia, a second bachelor’s as a Marshall Scholar from Oxford University, and coursework toward a master’s in philosophy from the Université Cheikh Anta Diop in Dakar, Senegal. She earned her doctorate in economics at the University of California, Berkeley.

Earlier this year, speaking via video link during protests following the death of George Floyd at the hands of police, Cook considers whether this year’s events will differ from previous, successive protests.

“It possibly could, because of the strange confluence of events, and serendipity,” she says. “Because people are locked down, they have had to pay attention. So I think this time is different.”

Desegregating Georgia

Cook knows a lot about protest and pushing for change. She remembers letter-writing sessions organized by her father, a Baptist chaplain at the local hospital, to protest segregation. An uncle and a cousin were college classmates of Martin Luther King Jr. and joined the civil rights movement he led. The young Lisa learned from their example.

“I organized a protest every single year” at Spelman, she says. Her campaigns included demands that the college divest itself of assets in South Africa, objections to curfew, and protests against the lack of vegan and vegetarian options in the school cafeteria.

Cook and her two equally high-achieving sisters—both trained lawyers—were born into a middle-class family in the historic town of Milledgeville, Georgia. The state capital for the first half of the 19th century, antebellum Milledgeville attracted money and power from the surrounding countryside, which was developed by enslaved peoples, many of whom were bought and sold in the town square to work on cotton plantations.

Cook grew up in a South still struggling with the tortuous, sometimes violent process of desegregation. When the local swimming pool was ordered to open to Blacks, officials filled it with concrete, rather than comply. Cook recalls that the only place in town where her family could eat out was the canteen at her father’s workplace.

Her father, Payton B. Cook, was the first Black chaplain at the state’s central hospital. He was probably descended from enslaved peoples in Georgia, the family says. Her mother, Mary Murray Cook, a nurse, was the first African American professor at Milledgeville’s Georgia College, and recruited to set up its nursing program.

Violence and economic growth

Cook’s past, together with her racial identity, have converged with the ambition of any self-respecting economist to maximize utility and foster growth. Underlying much of her work is the understanding that inequality produces market distortions that inhibit growth.

One of her seminal papers demonstrates how violence against Black Americans has hindered

broader economic activity, specifically innovation, the key to long-term growth. In her research, Cook adopts commercial patents as a tangible measure of, and proxy for, economic activity.

Drawing on social and economic history, she investigates how segregation, lynchings, and race riots during the tumultuous period 1870–1940 reduced the total number of patents filed. Until 1900, patent filings by Black inventors were moving in the same direction as those of White innovators. Then, as the effects of violence took hold, the rates began to diverge and slow overall. The pace of patent filings by Black inventors topped out in 1899 and didn't exceed that year's level until 2010.

"Conflict can have lasting and persistent effects on economic activity," says Cook.

She estimates that in the absence of that violence, there might have been 1,100 more patents—roughly the number that might be filed in a medium-sized European country in the same time period.

The answers lie in economics

Economics might have missed out on Cook's contributions had it not been for a serendipitous meeting with a stranger. She fell into conversation with a Cambridge-trained economist during an ascent up the base of Mount Kilimanjaro after her master's program in Senegal.

While studying in that country, Cook had become consumed by questions of development. "Why are some countries rich and others not?" she wondered. During the five-hour hike up Kilimanjaro, her companion—whose name has now faded from her memory—convinced her that the answers lay in economics.

The result of the chance encounter was enrollment in a doctoral program in economics at Berkeley. But en route to her first semester, Cook was involved in a head-on car crash that temporarily left her in a wheelchair with multiple fractures in her legs. Despite the urgings of her father and elder sister, she refused to return to Georgia and instead doggedly pursued her studies.

Some of her fellow students "sort of wrote me off," she recalls.

"She's got that resilience, that grit, that determination," Cook's older sister Pamela Cook says. "People perceived her differently coming in a wheelchair. She proved them wrong."

Cook's PhD dissertation looked at how the absence of property rights in czarist and post-Soviet

Russia led to underdevelopment of the banking system. Her thesis supervisor at Berkeley was Barry Eichengreen, who says he was struck by the breadth and scope of her interests, ranging from Russian economic history and Africa's development to issues centered on race.

"Before she had her papers published, people would wonder, 'How serious can you be if you're skipping between different issues?'" Eichengreen says. "Now she has established that she's very serious indeed."

While Cook was conducting research in Russia, contacts would lament to her the lack of innovation in the country. According to the prevailing economic orthodoxy of the time, if government enforced intellectual property rights, innovation would flow.

But Cook believed that this overlooked critical preconditions to innovation such as the rule of law and personal security. Testing her theory would require a sample group of people who were subject to violence, and had few or no legal protections, and a control group whose members enjoyed justice under the law and had few fears about personal security. US inventors—Black and White—living at the turn of the 20th century provided the ideal data set.

Discouraged from economics

Despite receiving backing for her research from renowned economists including Milton Friedman, the resulting key paper in Cook's career took nearly a decade to be published. Senior economists discouraged her, saying it would derail her ambitions for tenure.

"Nobody wants to hear about women, and they sure don't want to hear about Black people, they said."

Journals to which she submitted her work said her findings were specific to one group—African Americans—at one point in history; they suggested that her research held no broader relevance.

Cook's co-author Trevon Logan, professor of economics at Ohio State, says the myopia extended further. He and Cook were grilled by skeptics who challenged the validity of their subject.

"Why are you looking at African Americans?" they were asked. "What's unique about this particular circumstance? Why would we want to know about Black people?"

"Which is interesting," Logan says, "because we never ask that question about White people."

This dismissive attitude was not new to Cook. She remembers the responses of professors and peers while she was touring top graduate schools.

“Most graduate students were male, and they systematically discouraged me from doing a PhD in economics,” she says. At two separate dinner parties for prospective students, she was challenged to demonstrate her mathematics ability.

An exception was the encouragement she received from Donald J. Harris—the first Black scholar to earn tenure in Stanford University’s economics department and the father of US Vice President-elect Kamala Harris.

Today Harris remembers, “I was impressed by her eagerness to learn, her strong motivation for successful performance in graduate school, and her maturity of vision about career goals.”

‘You can’t be what you can’t see’

Cook, who was elected to the Executive Committee of the American Economic Association in 2019, acknowledges serious shortcomings within the profession.

“If economics is hostile to women, it is especially antagonistic to Black women,” Cook wrote last year in the *New York Times*. She cited the association’s own survey of over 9,000 of its members in which 62 percent of Black women economists reported experiencing racial discrimination, gender discrimination, or both.

In the survey, only 3 percent identified as Black, compared with 13 percent of the US population; 47 percent of those respondents reported experiencing discrimination in economics; and fewer than half of respondents, regardless of race, said they thought non-White economists were respected.

“The only way we’re going to remain a competitive, energetic, knowledge-creating profession is to incorporate as many and as different ideas as we can, and leverage those ideas,” she says. “We’re gonna die otherwise.”

Cook is passionate about building a future pipeline of more diverse economists. She serves as director of the American Economic Association’s summer program, recruiting members of underrepresented groups and often acting as mentor. One recruit was 24-year-old Ghanaian-born American Anna Gifty Opoku-Agyeman, who co-wrote the *New York Times* op-ed with Cook and says she is inspired by her example.

“I think that her being a Black woman is everything,” says Opoku-Agyeman. “If she were a White guy, I’d be, like, ‘meh,’ but it wouldn’t hit the same way. ‘You can’t be what you can’t see,’” she says,

quoting the American children’s rights activist Marian Wright Edelman.

Maximizing opportunities

One of Cook’s most startling findings is that the exclusion of Black and female Americans from industries that drive technological innovation wipes out almost \$1 trillion a year from the US economy. She estimates that the United States forgoes as much as 4.4 percent of GDP per capita each year. The loss from excluding women alone is 2.7 percent.

For Cook’s admirers, her work is not only original and risk-taking but has much to say to a United States currently struggling with its history of racial violence and injustice.

But her conclusion raises the question, Why would those who enjoy advantages by virtue of *their* identity voluntarily surrender those privileges? Cook’s response: because it is ultimately in their interest too.

A refusal to embrace the very best thinking—wherever it may originate—and denying opportunities to sizable segments of the population results in a loss to the privileged, too.

Cook illustrates her point with a scene from the 2016 Hollywood film *Hidden Figures*. The plot centers on three Black female mathematicians who worked at the National Aeronautics and Space Administration (NASA) during the space race of the 1960s between the United States and the Soviet Union.

In one scene, astronaut John Glenn directs NASA to “get the girl to check the numbers.” The “girl” was African American Katherine Johnson, dubbed a “human computer” within NASA’s Flight Research Division. The astronaut—recognizing Johnson’s unique skill—was staking his life on her double-checking the capsule’s trajectory.

Cook recalls the scene: “So this is John Glenn saying, ‘I trust you, you’re the one who knows how to do this.’ He relies on a Black woman to get him to the moon over her White male counterparts.”

The conclusion of Cook’s research is a clarion call to integrate not only diversity of thought, but also diversity of lived experience—to integrate them not only into economics, but also the world beyond. Failure to do so, she suggests, will cost us all. **FD**

HYUN-SUNG KHANG is on the staff of *Finance & Development*.

PHOTO: COURTESY OF THE EUROPEAN PUBLIC PROSECUTOR'S OFFICE



Cracking Down on Corruption

The EU's first anti-fraud prosecutor reflects on the challenges of tackling transnational crime

LAURA CODRUTA KÖVESI is no stranger to fighting corruption. After becoming Romania's youngest and first woman prosecutor-general, she served as head of the National Anti-Corruption Directorate from 2013 to 2018. Her tenacity and fearlessness soon opened a new door. Kövesi now serves as the European Union's first anti-fraud prosecutor in charge of the new European Public Prosecutor's Office (EPPO), based in Luxembourg, which will investigate, prosecute, and bring judgment for crimes against the EU budget. These crimes can include fraud, corruption, organized crime, and cross-border value-added tax (VAT) crimes exceeding €10 million.

Previously, only national prosecutors across EU member states could tackle such criminality, but they lacked jurisdiction beyond their borders. Other institutions, such as Europol or the EU anti-fraud office OLAF, had no legal authority to act. The European Commission reports that €140 billion in VAT revenue was lost in 2018 to fraud and evasion, predicting that number to increase to €164 billion in 2020 as a result of the pandemic.

Can the EPPO successfully tackle transnational crime? F&D's Rahim Kanani interviewed Kövesi to find out.

F&D: What is the single most important lesson you bring to this new role from your experience in Romania?

LK: My experience with Romania's National Anti-Corruption Directorate is proof that nobody is above the law and that the law can be applied equally to everyone, regardless of their position in society. We were able to not only raise awareness about the seriousness of corruption and how it impacts people's lives, but we were also able to show that Romanian institutions can work efficiently and legally to defeat it. It is not an unsolvable problem.

F&D: What are the main challenges to establishing an effective EU prosecutor's office?

LK: We're building this office from scratch, so there is much work to be done to get our administrative, budget, and legislative guidelines in order. There is no precedent for such an office, as we have to harmonize the work of prosecutors from 22 different member states. They are working in different judiciaries with different procedural rules, and we have to find common ground.

The second challenge, once we're operational, is to be efficient, act independently, and win the trust of the citizens—which we can only win by being effective in our efforts and by proving that the law is applied equally to everyone.

F&D: Do you have enough resources to achieve your mission?

LK: After much debate, and with 3,000 cases expected to land on our desks when we start, we now have funding for 140 European delegated prosecutors, but we are still missing resources for key Luxembourg-based staff, who will be key to the success of our mission. We need financial investigators and case analysts. With their expertise, we can

aggregate and analyze information to investigate cross-border crime more efficiently. Until now, all the prosecutors were focused on their own internal criminality, and they didn't always have access to information outside their borders—like bank accounts and specific financial transactions. The EPPO makes this possible.

Investigations alone are not enough. Another priority is to get money back or recover the damages. With more specialized staff based at headquarters, we can identify goods and bank accounts that can be seized. This will make all the difference in terms of investigating financial fraud efficiently and effectively.

Specifically, I've been pushing for a budget of €55 million. At this point we only have €37.7 million. In the context of just how much fraud there is to investigate—in the billions of dollars—this is not a large sum of money.

F&D: How will your office decide which cases to pursue?

LK: The principle of legality is our main guide rather than the principle of opportunity. In terms of prioritizing, criteria could include the amount of damages at stake or the statute of limitations. We also have to consider the position of those suspected. If someone is using their public office to commit a crime, we may want to focus on that first. We will also need to rely on national authorities because our work requires cooperation with national police, tax administrations, and other domestic agencies.

F&D: How important is investigative journalism in fighting corruption?

LK: Investigative journalists can be a very good source of information. Sometimes we opened up investigations based on journalists exposing potential criminality, and in some cases, they were able to send us additional documents, recordings, and other materials that proved useful. I see journalists as partners because they are the ones writing about our cases, and they can help us educate the public about our work, how corruption influences their lives, and the seriousness of these topics. In 90 percent of the cases, journalists and prosecutors share the same goal, but there is one small difference: they are eager to learn more about our investigations, and we sometimes want to say less. But it's important to find common ground.

A few years ago in Romania there was a huge attack against the rule of law, and there were legislative proposals put forth that would not only cut the tools and resources of prosecutors to investigate, but they would also decriminalize clear criminality and corruption. There were proposals to eliminate the legal guarantee of independence for prosecutors and subordinate them to the minister of justice; decriminalize abuse of office offenses amounting to an arbitrarily set figure of 200,000 lei (\$47,800); pardon tax evasion; decriminalize bribes if they were paid through an intermediary; ban recordings captured in public spaces from being used as evidence; close investigations if they had not been concluded within one year; and more.

Journalists explained why it was so important to reject these ideas, and more than 500,000 people took to the streets to protest these changes and support the rule of law.

Journalists would also call us and say they had information about potential illegality, but they wanted to check first whether writing an article might impede an active investigation—and if so, they would hold back the story.

F&D: You spoke of winning the trust of citizens as a pillar of effectiveness. How do you plan to do that?

LK: When you investigate cases based on solid proof, obtain convictions in court, and do so in an efficient and independent manner, you can win the people's trust. But it's not something you can do in one or two days. Even if on day one we open 3,000 cases, or 5,000 cases, it's not enough. You need to obtain credible results, and the only way you can achieve this is to have definitive decisions in the courts for a conviction. This takes time—two or three years, not two or three days. From the outset, we must establish ourselves as a strong and independent institution.

Only then will people send us their complaints and tips. In Romania, most of the cases we opened were based on information provided to us from the public. In one year alone, complaints from private citizens increased by more than 60 percent. This is a good indication that people trust you, and if they trust you, they will confide in you and fight for you. What we do is not for us, it's for the benefit of the people. That is justice. **FD**

This interview has been edited for length and clarity.

What Is the Informal Economy?

Having fewer workers outside the formal economy can support sustainable development

Corinne Deléchat and Leandro Medina



THE INFORMAL ECONOMY, comprising activities that have market value and would add to tax revenue and GDP if they were recorded, is a globally widespread phenomenon. According to the International Labour Organization, about 2 billion workers, or 60 percent of the world's employed population ages 15 and older, spend at least part of their time in the informal sector. The size of the informal sector slowly decreases as economies develop, but with wide variations across regions and countries. Today, the informal sector still accounts for about a third of low- and middle-income countries' economic activity—15 percent in advanced economies (see chart).

Informality covers a wide range of situations within and across countries, and it arises for a number of reasons.

On the one hand, individuals and firms may choose to remain outside the formal economy to avoid taxes and social contributions or compliance with standards and licensing requirements. This relates to the common but misconceived view that informality is caused mainly by firms and individuals “cheating” to avoid paying taxes. On the other hand, individuals may rely on informal activities as

a safety net: they may lack the education and skills for formal employment or be too poor to access public and financial services. A forthcoming book compiling recent research by IMF staff and academic researchers aims to shed new light on this topic by looking in more detail at measuring informality, analyzing its drivers and economic consequences, and discussing possible policy responses.

The high incidence and persistence of informal labor, particularly in emerging market and developing economies, is increasingly recognized as an obstacle to sustainable development. Informal firms do not contribute to the tax base and tend to remain small, with low productivity and limited access to finance. As a result, economic growth in regions or countries with large informal sectors remains below potential. Informal workers are more likely to be poor than workers in the formal sector, both because they lack formal contracts and social protection and because they tend to be less educated.

The prevalence of informal work is also associated with high inequality: workers with similar skills tend to earn less in the informal sector than their formal sector peers, and the wage gap between formal and informal workers is higher at lower skill levels. This explains why the large decline in informality in Latin America observed over the past 20 years was associated with significant reductions in inequality.

Informal work is similarly linked with gender inequality. In two out of three low- and lower-middle-income countries, women are more likely than men not only to be in informal employment, but also to be in the most precarious and low-paying categories of informal employment.

Addressing informality is thus essential and urgent to support inclusive economic development and reduce poverty worldwide. The COVID-19 pandemic has only reinforced this sense of urgency: its crushing impact on informal activities worldwide has highlighted the need for governments to provide a lifeline for large segments of the population not covered (or not well covered) by existing social protection programs.

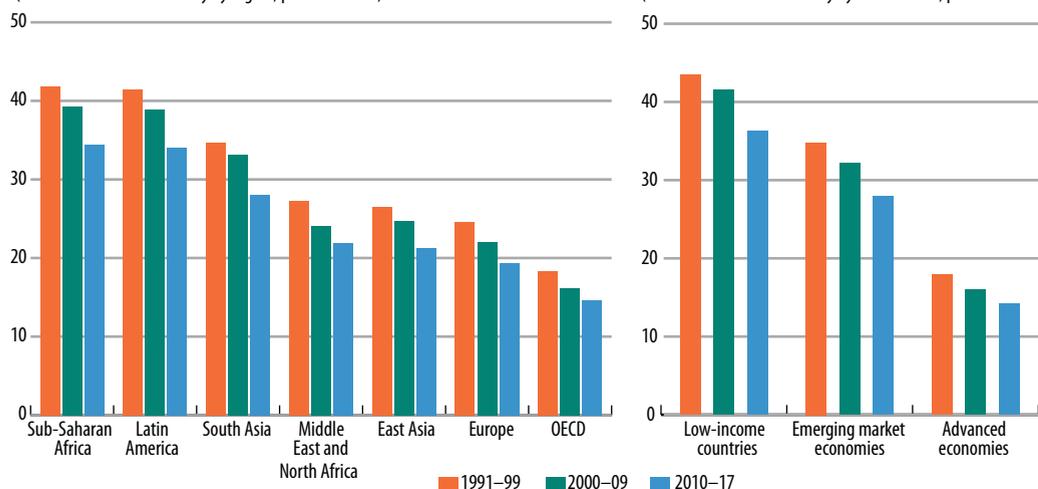
Designing effective policies to address informality is, however, complicated by its multiple causes and forms, both across and within countries.

The hidden third

The informal sector, while shrinking, still represents up to a third of low- and middle-income countries' economic activity.

(size of the informal economy by region, percent of GDP)

(size of the informal economy by income level, percent of GDP)



Source: Medina, L., and F. Schneider. Forthcoming. International Monetary Fund, Washington, DC.

Note: OECD = Organisation for Economic Co-operation and Development.

Informality is a response to a set of country-specific characteristics and institutions, and there is no one-size-fits-all solution. Extensive research and policy experiments in both developing and advanced economies nonetheless point to a common set of guiding principles for policy design. Four types of policies have proved effective:

- *Improving access to and quality of education is probably the single most powerful way to lower informality.* Education reforms aimed both at enhancing equality of access and ensuring that students remain in school until the end of the secondary cycle (and ample technical and vocational training opportunities) are particularly important.
- *Tax system design should avoid inadvertently increasing incentives for individuals and firms to remain in the informal sector.* It is generally recognized that simpler value-added and corporate tax systems (with no or minimal exemptions and loopholes) with lower rates, as well as low payroll taxes, help reduce informality. Supportive social protection systems, including progressive income taxes and protection for the poorest, help address distributional aspects.
- *Policies to enhance financial inclusion by promoting expanded access to formal (or bank-based) financial services can help lower informality.* Lack of access to finance is a key constraint for informal firms and entrepreneurs, stifling productivity and the growth of their businesses. Countries where access to finance is greater tend to grow faster and have lower income inequality.

- *A range of structural policies can help increase incentives and lower the cost of formalization.* Labor market regulations can be simplified to ensure greater flexibility and facilitate informal workers' entry into formal employment. Competition policy can boost entry of small firms in some sectors by eliminating monopolies. Elimination of excessive regulations and bureaucratic requirements also helps. Digital platforms, including government-to-person mobile transfers, can contribute to inclusive growth by bringing financial accounts to the unbanked, empowering women financially, and helping small and medium-sized enterprises grow within the formal sector.

Informality critically affects how fast economies can grow, develop, and provide decent economic opportunities for their populations. Sustainable development requires a reduction in informality over time, but this process will inevitably be gradual because the informal sector is currently the only viable income source for billions of people. Informality is best tackled by steady reforms—such as investment in education—and policies that address its underlying causes. Attacks on the sector motivated by the view that it is generally operating illegally and evading taxes are not the answer. **FD**

CORINNE DELÉCHAT is a division chief in the IMF's African Department, and **LEANDRO MEDINA** is a senior economist in the IMF's Strategy, Policy, and Review Department.

UNCERTAIN AGE

The pandemic is taking a toll on young people

IMAGINE BEING 22 years old now. You might have just finished college, be working, or be juggling school, work, and family. Or perhaps you are unemployed or underemployed and struggling to make ends meet. Now imagine all those challenges with the unrelenting weight of the global COVID-19 pandemic as a daily backdrop.

To find out more about how young people are coping with the historic pandemic, the International Labour Organization (ILO) and partners of the Global Initiative on Decent Jobs for Youth surveyed more than 12,000 18- to 29-year-olds from 112 countries earlier this year.

The pandemic's effects on young people have been "systematic, deep and disproportionate," the ILO report finds, and it has been particularly difficult for young women and youth in lower-income countries. Education was radically disrupted, with one in eight young people left without access to courses, teaching, or training.

For young workers, the COVID pandemic has been especially unsettling. One in six respondents who

were employed before the pandemic stopped working entirely, with 18- to 24-year-olds hit especially hard. Even for young people with jobs, working hours fell, and two out of five reported earning less.

These dramatic changes, in addition to the stresses of the health crisis, have taken a toll on young people's mental health, with high numbers of respondents reporting anxiety and depression. Despite all of this, the report finds that a high proportion of young people are turning the crisis into an opportunity for collective action by supporting their communities through volunteering and giving.

The report calls for "urgent, targeted, and smarter" investment in "decent jobs" for young people. It also highlights the need to protect human rights, improve employment and training programs (including online learning), strengthen social protection and unemployment benefits, and improve mental health support. **FD**

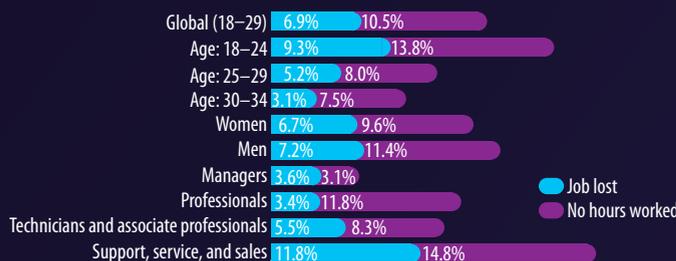
MELINDA WEIR is on the staff of Finance & Development. This feature is based on the August 2020 ILO report *Youth & COVID-19: Impacts on Jobs, Education, Rights and Mental Well-being*.

ICONS: THE NOUN PROJECT

As COVID-19 spread, so did a jobs crisis

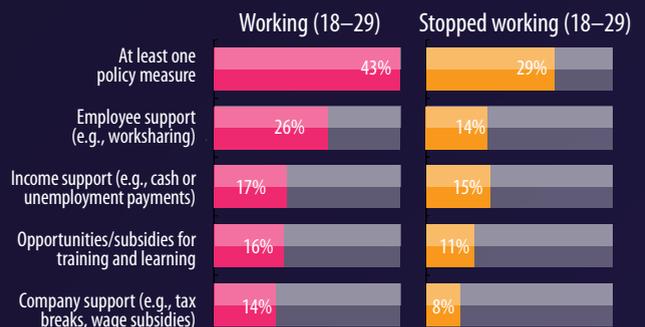
Not hiring

At the start of the pandemic, one in six young people aged 18–29 had either lost jobs or had work hours eliminated fully. Workers in service, support, and sales were especially affected.



Government support... for some

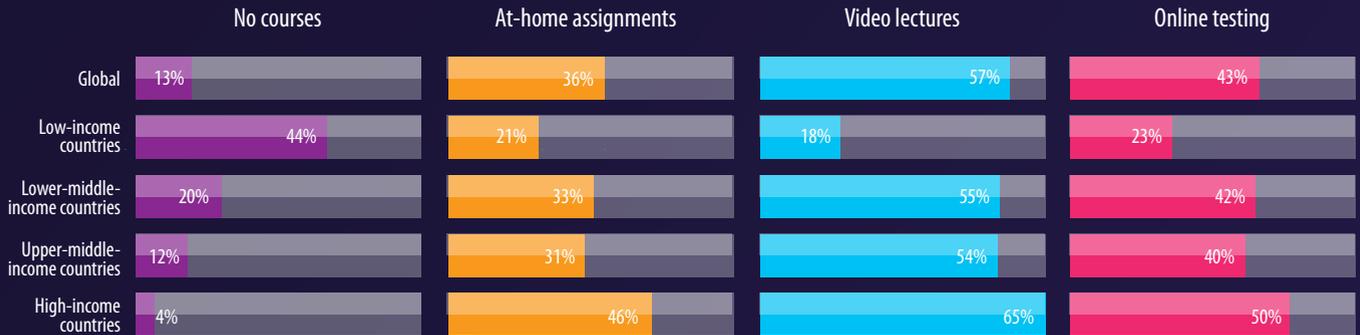
Around the world, young people who stayed employed after the onset of the crisis more frequently benefited from government labor market policy measures than those youth who lost their jobs.



Class dismissed

Zoom school...but not for all

Nearly one in eight young people saw education and training come to a complete stop in spring 2020. 44 percent of survey respondents from low-income countries reported having no courses at all.



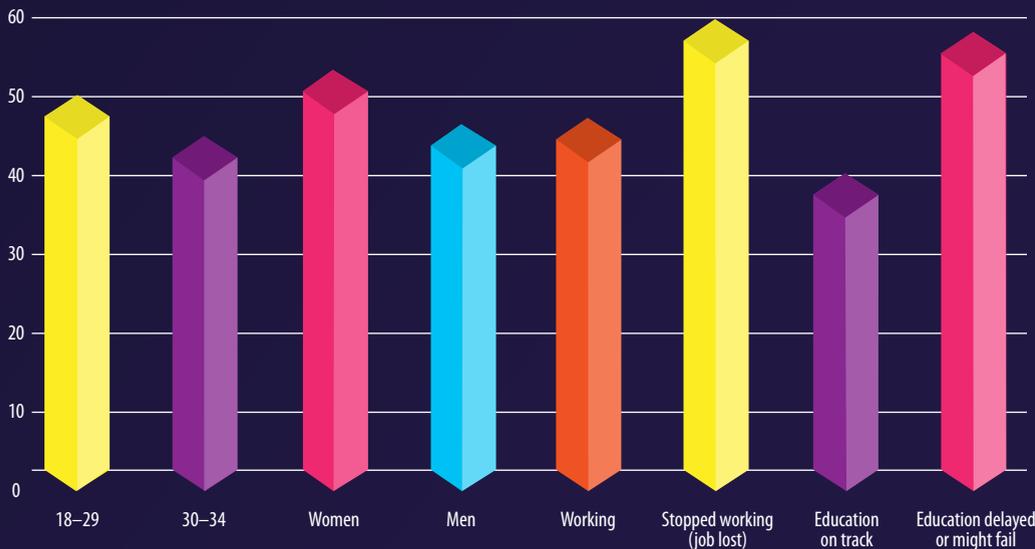
The crisis is affecting mental health



The other pandemic

Approximately half of the young people surveyed indicated possible anxiety or depression, with young women and those who stopped working or whose education is delayed showing the lowest mental well-being scores.

(percent)



OVER 50%

of young people aged 18-29 indicated possible anxiety or depression

Note: Share of respondents showing signs of possible anxiety or depression according to the Short Warwick Edinburgh Mental Wellbeing Scale.

Source: Decent Jobs for Youth Global Survey 2020 on Youth & COVID-19.

*The African forest elephant (*Loxodonta cyclotis*) is a forest-dwelling elephant of the Congo Basin.*

THE SECRET WORK OF ELEPHANTS

African forest elephants fight climate change by contributing in surprising ways to natural carbon capture

Ralph Chami, Connel Fullenkamp, Thomas Cosimano, and Fabio Berzaghi



Consider the plight of African forest elephants. Some 1.1 million once roamed the central African rainforests, but deforestation and poaching have diminished their population to less than one-tenth their former number (see Chart 1). They likely face extinction unless action is taken.

Most people outside central Africa are unaware of the existence of these forest elephants. When people think of African elephants, they picture those of a different species, elephants that roam the savannas. Except for dedicated local conservationists and the biologists who study these animals, African forest elephants have few advocates.

This situation could change dramatically if the valuable service these forest elephants provide were more widely understood. Although there is virtually no ecotourism in the central African rainforests, for both geographic and political reasons, African forest elephants contribute something of tremendous social and

market value. As it turns out, these elephants fight climate change by contributing significantly to natural carbon capture.

Elephants as environmental engineers

This process, which has only recently been documented by biologists, is extraordinary.

As African forest elephants make their way through the rainforests and forage for food, they thin out young trees that are competing for space, water, and light—by stepping on some and consuming others. Elephants are large and have big appetites, which means that they dramatically reduce the density of the vegetation wherever they go. The trees that are left behind unbroken and unconsumed, however, have a huge advantage over other trees in the forest. They have much better access to water and light, thanks to the elephants' thinning of the surrounding vegetation, which means that they grow taller and larger than other



PHOTO: ISTOCK/USO

The increase in carbon storage caused by forest elephant activity is huge—as well as valuable.

trees in the rainforest. Wherever forest elephants roam, therefore, they promote the growth of larger, taller trees.

These trees—which biologists call late-succession trees—store more carbon in their biomass than the trees that would have grown in their place. All trees capture carbon in their tissue—the equivalent of about 50 pounds a year, on average—but because of the greater size and height of late-succession trees, there is simply more tree biomass capturing more carbon in these trees than in those that would have grown and dominated the rainforest canopy. Forest elephants thus actually increase the amount of carbon stored by the rainforest by tilting the biological balance in favor of certain types of trees. In short, elephants are environmental engineers (see Chart 2).

The increase in carbon storage caused by forest elephant activity is huge—as well as valuable.

Biologists estimate that if the population of African forest elephants returned to its former size and they recovered their former range, it would increase carbon capture by 13 metric tons (1 metric ton = 1,000 kg) per hectare (10,000 square meters). Since the former range of African forest elephants was 2.2 million square kilometers, each of which comprises 100 hectares, and forest elephants are now at about 9 percent of their pre-poaching population, carbon capture from a recovery of these elephants could be equivalent to more than 6,000 metric tons of carbon dioxide per square kilometer. That is the same amount of carbon dioxide captured by over a quarter of a million trees, or 14 times what is captured by trees in New York City's Central Park.

If we multiply this increase in carbon dioxide captured by the 2.2 million square kilometers of rainforest affected by a rebound in elephant populations by the average market price of a metric ton of carbon dioxide—just under \$25 in 2019—we get a total present value of over \$150 billion for the carbon-capture services of African forest elephants.

If we then take the total value of the service provided by African forest elephants and divide it by their current population, we find that each elephant is responsible for service worth more than \$1.75 million (see Chart 3). On the other hand, the ivory of an elephant killed by poachers fetches only about \$40,000, so it is clear that the benefits from a healthy and thriving elephant community are substantial.

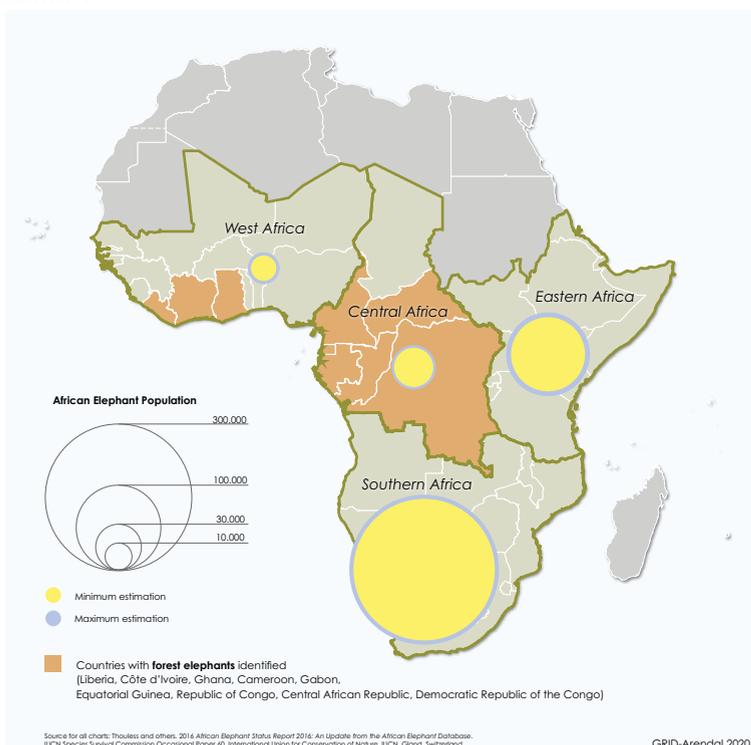
Unfortunately, these elephants are fighting an existential threat, with poaching and deforestation pushing them to extinction.

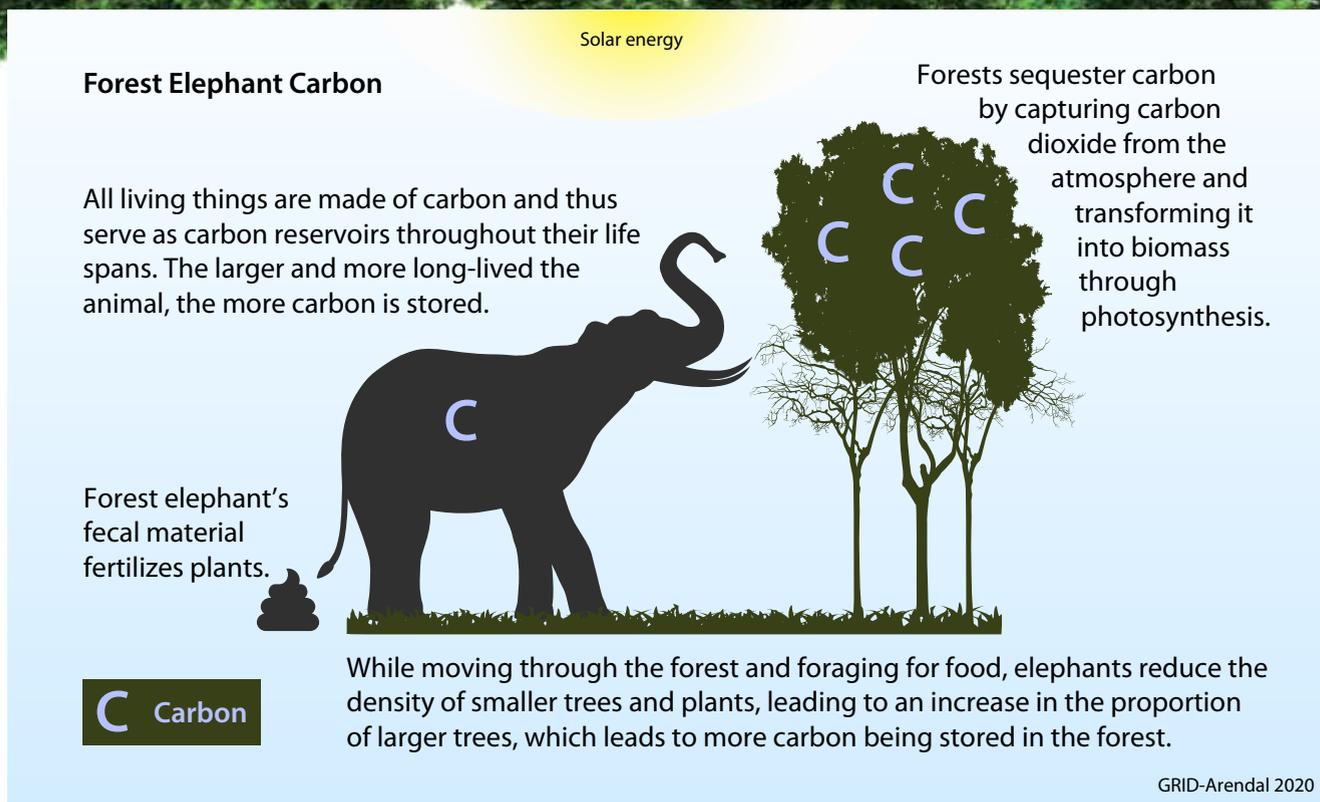
Valuation inspires action

We have developed a framework for natural resource valuation that directly addresses the fundamental collective action problem in environmental protection (Chami and others 2020).

Every day, certain types of valuations inspire millions of people to invest their savings in risky long-term assets and projects, while other valuations fail to do so. The valuations that lead to

CHART 1





investment are based on believable stories about specific ways that assets or projects will generate cash or other income for their owners, which in turn leads to credible projections of future returns that can be summarized in present monetary value. When the present monetary value of these future returns exceeds the cost of the asset or project, profit-seeking investors will take advantage of these opportunities.

This cost-benefit approach can also be used to protect, invest in, and ultimately put our ecosystems on a sustainable path. If we can reliably identify and measure the market-value services provided by natural resources—such as recreation, tourism, and carbon sequestration—we can then compare the present monetary value of these benefits with the cost of investing in them, just as we do for other assets.

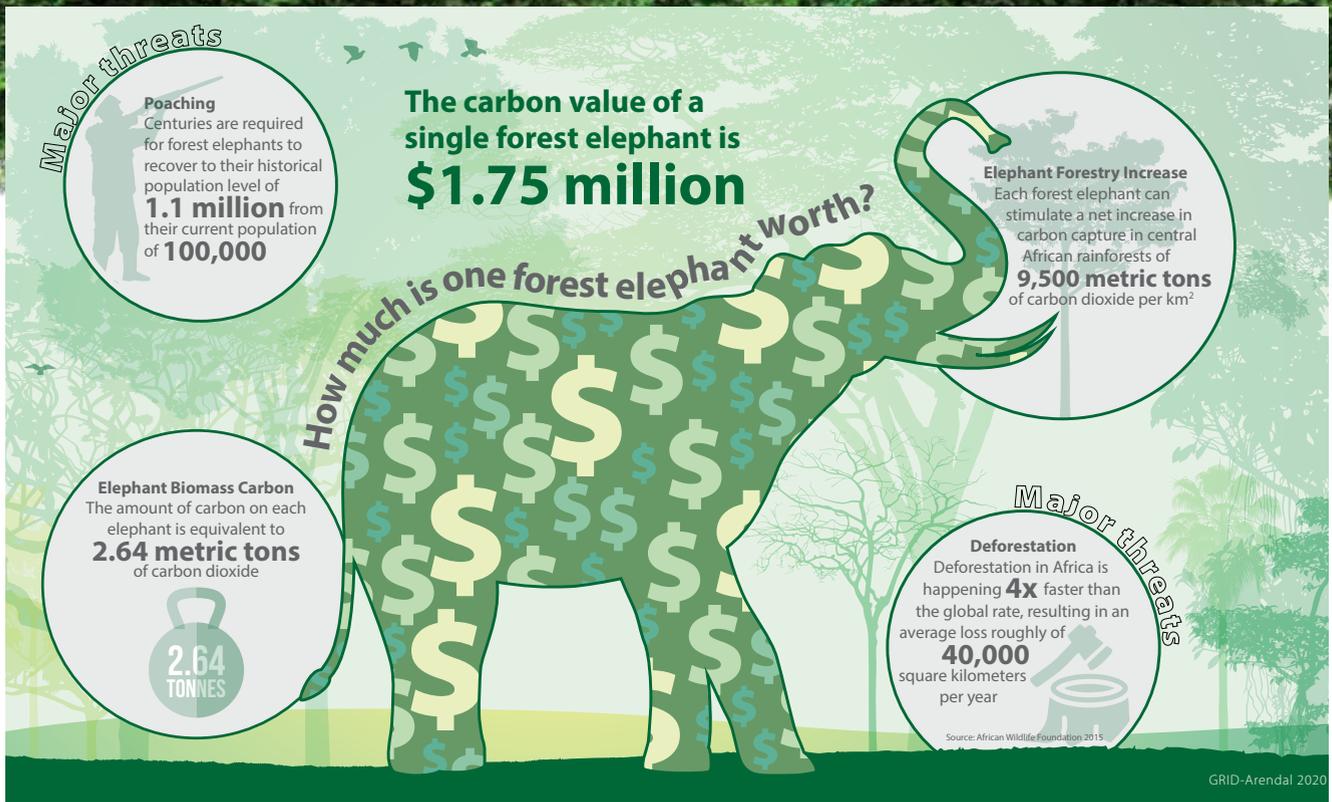
The resulting valuations can effectively motivate environmental investment for several reasons. First, they show exactly what concrete services society currently receives from our stock of natural resources—as we have shown with the elephant example—which helps people understand the relevance of these resources to their lives. In addition, expressing the benefits of preserving natural resources in monetary terms allows for a dollar-to-dollar cost-benefit comparison, which is important because people are more comfortable making decisions when the stakes are expressed in

financial terms. And finally, the value embodied in these natural assets can be very large—not only justifying the cost of preserving them but also causing surprise and capturing the imagination of people who learn about the valuations. Behavioral economics research shows that people are more likely to purchase products or make investments that inspire these feelings.

Win-win opportunity

Valuing the benefits of individual natural resources such as elephants and of a healthy ecosystem in general—when coupled with a legal framework that appoints stewards of these resources and establishes their rights and obligations—allows for win-win opportunities among stakeholders: government, the private sector, local communities, and global partners. With a proper legal framework in place, the economic benefits from natural resources may be claimed and distributed. These benefits can be used as incentives for public-private partnerships, supported by nongovernmental organizations and global institutions, that yield direct dividends—and, as a result, ownership—for local communities.

One such example, the United Nations Development Programme Financing Solutions for Sustainable Development initiative, includes debt-for-nature swaps. Under this financial contract lenders agree to reduce a developing



economy’s debt or debt payments in exchange for a commitment from the debtor country to protect specific natural resources. For example, many countries that are home to forest elephants are highly indebted and could substantially benefit from a debt-for-nature swap. The amount of debt relief is determined by the value of the elephants’ services, using market prices. The money the countries save would be devoted to elephant conservation but could also facilitate the creation of public-private partnerships that help build markets, such as tourism and insurance, around investing in and protecting the elephants. These markets would provide steady employment and income in local communities, leading to ownership and sustainability of conservation efforts.

Nongovernmental organizations and international financial institutions could provide the necessary capacity development for public-private partnerships and insurance markets centered around natural resources. The example of debt-for-nature swaps shows that valuing nature for its benefits can support a virtuous cycle, directing investment and enterprise along a more regenerative and sustainable path.

The COVID-19 pandemic, attributed to a virus that originated in a local wet market, demonstrates that nature can have a macrocritical impact of global proportions. A worldwide alarm has been sounded, calling for a course correction. Human

destruction of the natural world not only leads to severe volatility in our economic systems but threatens our very existence. On the other hand, vibrant, intact ecosystems that include healthy populations of forest elephants and great whales, mangroves, and sea grass are vivid examples of how valuing and investing in the protection of nature can generate a more sustainable blue-green economy, help mitigate climate change, and realign economies toward inclusive and nature-friendly economic growth. **FD**

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Counting Women to Make Women Count

“THE GENDER DATA GAP isn’t just about silence. These silences, these gaps have consequences.”

This is what Caroline Criado Perez tries to drive home in her book *Invisible Women*.

Criado Perez emphasizes that the “male unless indicated otherwise” approach to all aspects of life and the myth of “male universality” are not malicious or even deliberate, but are the product of thinking that has been around for millennia.

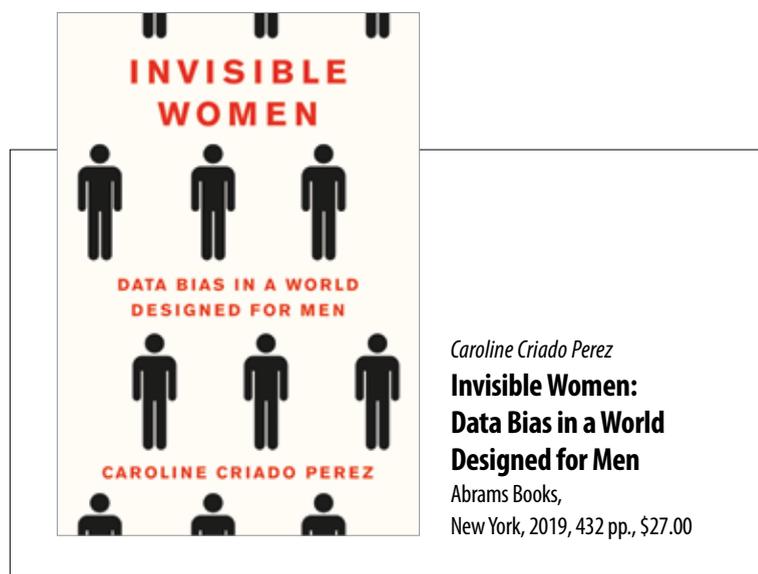
She provides numerous examples—some well known and others less so—of biases against women, including the 2013 homage to tennis player Andy Murray as the first Briton to win Wimbledon, when in fact Virginia Wade had won in the tournament more than three decades earlier in 1977.

The book’s most compelling passages discuss the consequences of the absence of sex-disaggregated data. She describes the snow-clearing schedule in the town of Karlskoga, Sweden, where the major traffic

Criado Perez concedes that closing the gender data gap will not magically fix all problems.

arteries are plowed first and pedestrian walkways and bicycle paths are cleared last. Why is this sexist? Men tend to work outside their homes and travel to work in cars or buses, while women are far more likely to walk with a child to school, sometimes wheeling other children in strollers. A seemingly innocuous snow-clearing schedule, together with the disproportionate burden of caregiving that falls on women, puts women in a double bind. Other examples are even more insidious—the health risks to women caused by a failure to provide public toilet facilities or the life-and-death consequences, for example, of scant sex-disaggregated data in medical research when it comes to the different symptoms of heart attacks in men and women.

Criado Perez provides eye-opening examples of the biases in the design of common, apparently



gender-neutral, products used in everyday life and the ramifications of the “one-size-fits-men” approach. Take safety equipment in automobiles—headrests, seatbelts, and airbags. Crash test dummies are designed around a 50th percentile male, about 1.77 meters tall and weighing 76 kilograms. The fact that the safety equipment does not take into account that women are, on average, shorter and lighter contributes to the shocking statistic that when a woman is involved in a car crash, she is 47 percent more likely to be seriously injured than a man and 17 percent more likely to die! And all because we have failed to factor in gender differences when designing the safety equipment in cars.

Criado Perez also covers ground that is more familiar to economists—including the failure to properly measure unpaid household and care work, the impact of taxes on women’s choice to join the labor force, and the disproportionate representation of women among the world’s poor.

Criado Perez concedes that closing the gender data gap will not magically fix all the problems women face. She concludes, however, that closing the gender data gap will happen only once the gap in female representation in leadership and government is bridged.

This impressive book is a must-read for any researcher and policymaker who is serious about addressing the challenges faced by half the world’s population. **FD**

KALPANA KOCHHAR, director, IMF Human Resources Department

Bubbling Up

FROM THE MISSISSIPPI and the South Sea bubbles of the early 1700s to the subprime and Chinese excesses of the 2000s, *Boom and Bust: A Global History of Financial Bubbles* provides a fascinating guide through a historical journey of speculative financial crises. Building on seminal analyses by Charles P. Kindleberger (*Manias, Panics, and Crashes*) and John Kenneth Galbraith (*A Short History of Financial Euphoria*), authors William Quinn and John Turner present a novel framework they dub the “bubble triangle” for assessing and understanding booms and busts.

They see a financial bubble as a fire, composed of oxygen, fuel, and heat.

The first component of the bubble triangle is the marketability of assets—how easily assets can be purchased and sold—which corresponds to oxygen. The second factor is money and credit—the level of interest rates and the use of financial leverage—which provides the fuel. The third ingredient is

What are the implications for investors and policymakers? From the perspective of predicting financial follies, all three sides of the triangle are necessary for a bubble to form and for the fire to persist. This framework also allows for the assessment of the severity of the bust: for example, leverage has been a consistent indicator throughout history. Furthermore, it can be used to interpret the increased frequency of bubbles. The globalization of capital markets, deregulation, and technological changes have set the stage for a surge in debt. Will this result in more frequent and more severe boom and bust episodes in the future?

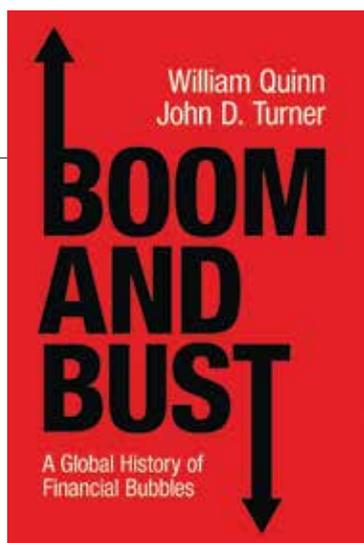
Bubbles are hard to identify with certainty in real time; deflating them may cause more harm than good.

I would have liked the authors to venture more into the policy debate and present specific measures available to policymakers to deal with pernicious bubbles. For example, which side of the triangle should be tackled first? The authors acknowledge that policymakers could reduce money and credit, thus withdrawing some of the fuel from the fire. But they seem to take the view that measures such as tightening monetary policy or leaning against the wind face insurmountable challenges. Bubbles are hard to identify with certainty in real time, and deflating them may cause more harm than good.

But macroprudential policies can be a useful complement to monetary policy, so that policymakers can achieve both traditional inflation and financial stability objectives—even if the macroprudential framework is still evolving, especially for nonbank financial institutions, and even if the available toolkit is admittedly still limited.

In the end, the authors seem to embrace the notion that the best policymakers can do is clean up the mess, while investors need to act as “fire-safety inspectors”—and as students of history, be conscious of the perils of bubble triangles. **FD**

FABIO NATALUCCI, deputy director, IMF Monetary and Capital Markets Department



William Quinn and John D. Turner
Boom and Bust:
A Global History of
Financial Bubbles
 Cambridge University Press,
 Cambridge, UK, 2020, 296 pp., \$24.95

speculative behavior—when the purchase of an asset is driven primarily by expectations of a continued rise in the asset price—which is equivalent to heat.

Quinn and Turner identify two triggers that have sparked fire over the past 300 years: technological innovation and government policies.

Chasing Stability

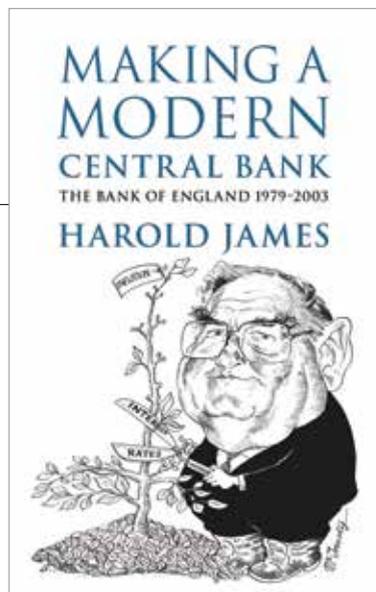
WHEN IN 1997 the Bank of England regained independence, the long arc of its 20th century history reached closure: from great power before the 1930s, to decades sidelined as the Treasury's operational branch, through reacquired authority during the late 1970s and 1980s, and finally back to insulation from quotidian politics. The destination was not inevitable, and the job of this book, covering the quarter century from 1979 to 2003, is to tell the tale of how a remarkable group built an organization fit to be granted independence when the politicians and mandarins ran out of monetary wheezes. It has the right title (almost) and an appropriate cover, as Eddie George—perhaps the finest central banker in the generation after Paul Volcker—embodied the transition from old to new.

Harold James' rich and perceptive book traverses three territories: the history of the economy and policy, of the institution and of the organization. It mainly follows the standard pattern in occupying the space between policy events and organization, but with an underlying theme of how internal change and debate paved the way for institutional reform.

It is essential reading for anyone interested in the agonized twists and turns in Treasury-led British macroeconomic policy during the 1980s and its gradual redemption during the 1990s. Ditto for anyone interested in how a system of judgment-based banking supervision that had succeeded in maintaining systemic stability gave way, after a series of noisy idiosyncratic failures (JMB, BCCI, Barings), to a regulatory regime outside the central bank, which ended in systemic collapse.

Policy initiatives, setbacks, and reforms are nicely displayed. But we learn less about the personal rivalries and perspectives that drove the place forward.

If Gordon Richardson reestablished gubernatorial authority, Robin Leigh-Pemberton assembled and nurtured a world-class team (including Andrew Crockett, later head of the Bank for International Settlements), George Blunden cleared away obstacles, and the goods were delivered by Eddie George and Mervyn King, whose strategic transformation of the Bank's capabilities is impossible to exaggerate. We do not, however, get much of the parade's color.



Harold James

Making a Modern Central Bank: The Bank of England 1979–2003

Cambridge University Press,
Cambridge, UK, 2020, 350 pp., \$110

Unbelievable though it is looking back, Whitehall fiercely resisted Eddie becoming deputy governor, giving way only with the stricture that this was not a route to the top (a message delivered via me as the then-governor's private secretary). Nor will the reader get much of a sense of the decade-and-a-half-long internal struggle, verging on civil war, over the Bank's role in financial stability, which reached its (current) conclusion only after the 2008 crisis.

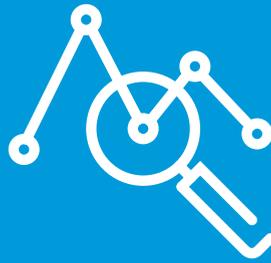
James has, then, triumphed in delivering a Bank of England-centered account of British economic policy in the late 20th century. He has also laid the groundwork for a badly needed political-cum-sociological study of the deeper stories around this institutional renewal.

Oh, about the title. Shortly after independence was granted, New Labour's economic team, flush with power and glory, came for lunch. As part of "modernization," you should get rid of your stewards' 18th century livery, they said. The Bank can be world-class without ditching all its traditions, we responded. After all, "modern" is not quite the right word; the two generations that refashioned the Bank were not chasing fashion, but stability. On that, we were all united, which was the really big thing. **FD**

PAUL TUCKER, author of *Unelected Power*, worked at the Bank of England from 1980 to 2013.



GLOBAL ECONOMY



**INEQUALITY AND
GROWTH**



ASIA



**BANKING, FINANCE, AND
TAXATION**



GENDER



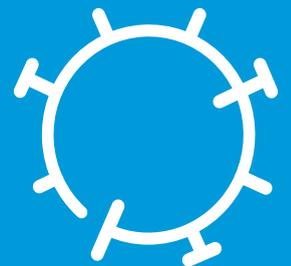
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