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Challenging Inequality

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MILKEN INSTITUTE

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The Milken Institute's mission is to improve lives around the world by advancing innovative economic and policy solutions that create jobs, widen access to capital and enhance health.

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FROM THE CEO

"Think global, act local," is a popular catchphrase. But at the Milken Institute, our operating philosophy is "think global, act global," for increasingly, our engagement spans the world. Here are a few examples:

• In September, the Institute held its inaugural Asia Summit in Singapore. Organized by our new, Singapore-based Asia Center, the meeting brought together leaders from the worlds of business, finance, government and philanthropy to discuss issues ranging from Asia's new crop of political leaders, to the prognosis for health innovation in Asia, and to prosperity and risk in the Asia-Pacific region. Our work in the region extends beyond convening meetings: on the eve of the Summit, we released several major research reports on Asia, including a ground-breaking index of the best performing cities on the continent.

• In late October, we return to the U.K. for our fourth London Summit, a one-day version of our Global Conference. We will gather nearly a thousand participants from Europe, Africa, Asia and the Americas for panels and private sessions that will focus on finding solutions to some of the globe's biggest challenges.

• Our work in Africa continues to expand. As the continent with the most rapid growth in the past decade, there are clearly huge opportunities to unlock the human capital and creative potential of tens of millions of people. We are helping governments in East Africa develop policies that attract growth-inducing foreign investment, as well as helping multinational businesses better appreciate why they need an Africa strategy if they don't already have one.

• Last but hardly least, our Global Conference, held each spring in Los Angeles, is more global with each passing year. We're already planning for GC 2015, and expect to have more international participants and speakers than ever before, and more panels centered on issues of interest outside the United States.

Why is the Milken Institute so focused on expanding activities around the world? Not only are the issues we focus on – expanding access to capital, improving health, helping fuel job creation – intrinsically global in nature, but in an ever-more-borderless world, solutions and innovations pioneered in one country can powerfully help people elsewhere. A big part of what we do, especially through our convening, is a kind of cross-pollination of ideas. By bringing innovators and leaders from many sectors and countries together, we raise the odds that innovations will move around the world faster, and affect more lives for the better.

Michael Klowden, CEO

"What with war, drought, racial violence and terrorism haunting the news," writes battle-fatigued correspondent JG from Passadumkeag, Maine, why can't you lighten up a bit?" Well, we've been wondering that ourselves, JG. We were considering shifting media this issue so we could share our favorite cute animal videos from YouTube, but guilt kicked in. (BTW: Don't miss the duckling and kitten sleeping together, or the manatee drinking water from a hose…)

And anyway, along with the usual bad news bears, we're offering pretty good tidings re: inequality, technology and the government safety net.

• **Jason Furman**, chair of President Obama's Council of Economic Advisers, argues that rising inequality could be reversed without sacrificing productivity or growth. "Modern economics has long been in the thrall of the view that virtually any interference with free

SHUTTERSTOCK

market incentives with the goal of a more progressive distribution of income – policies ranging from higher taxes on high-income earners to minimum wage increases to subsidized medical care for the poor – would exact a price in economic efficiency," he writes. In fact, "there is just no compelling reason to believe well-designed policies to narrow this widening gap would meaningfully reduce growth, and every reason to believe they could provide a meaningful boost to working families."

• **Dani Rodrik**, an economist at the Institute for Advanced Study in Princeton, offers a reality check on the new optimism about Africa's economic prospects. "While the region's fundamentals have improved, the payoffs to macroeconomic stability and improved governance are mainly to foster resilience and to lay the groundwork for growth, rather than to ignite and sustain it," he warns. "The traditional engines behind rapid growth and convergence – structural change and industrialization – are operating at less than full power."

• "Optimists can make a case that the safety net works – that tens of millions of Americans who suffered during the recession were buffered against the worst of it," writes **Robert Moffitt**, an economist at Johns Hopkins. "But there is also a case to be made that this glass is half empty: Washington has no plans for helping those permanently injured by this recession, the millions of long-term unemployed who are not likely to work again either because their skills are marginal or their résumés have been tainted by years of joblessness."

• State franchise laws have long served to protect incumbent businesses from the winds of change, concludes **Larry Fisher**, a former *New York Times* reporter. "But this sleeping dog may not snooze indefinitely," he writes. "A light has been shown on these hitherto obscure laws, thanks in part to Tesla Motors' high-profile effort to sell its electric cars through company-owned stores – much as Apple sells iMacs and iPhones."

• Puerto Rico's economy is poised on the edge of the abyss, warns **Bob Looney**, an economist at the Naval Postgraduate School in California. "With the public utilities immobilized by debt and island businesses forced to pay wages unjustified by productivity gains, there is little hope that operating costs can be controlled," Looney writes. "There is, however, a modest source of hope" in the form of business-friendly local government initiatives and the commonwealth's remaining tax advantages.

• Cars that drive themselves are poised to disrupt business as usual, acknowledges **Rob Atkinson**, the president of the Information Technology and Innovation Foundation. But "the direct productivity gains are likely to be modest," he writes. "The bulk of the gains will come from reducing the costs associated with accidents and traffic congestion."

• Genetically engineered crops may spook the technophobic, argues **Jayson Lusk**, an economist at Oklahoma State University. "But given the confluence of tightening water supplies, climate change, rising demand for meat in emerging-market countries like India and China, and a growing world population, genetic engineering will be necessary if we are to feed future generations at reasonable cost."

• South Korea's unique *Joense* system for financing housing served as a secret weapon in that country's dramatic rise to prosperity, writes **Matt Phillips**, a former reporter for the *Wall Street Journal*. But as Korea faces the stresses of affluence "the dynamic has changed," he explains, undermining households' incentives to save and putting the economy in peril of a major housing bust.

Happy perusing. — *Peter Passell*

BY LAWRENCE FISHER

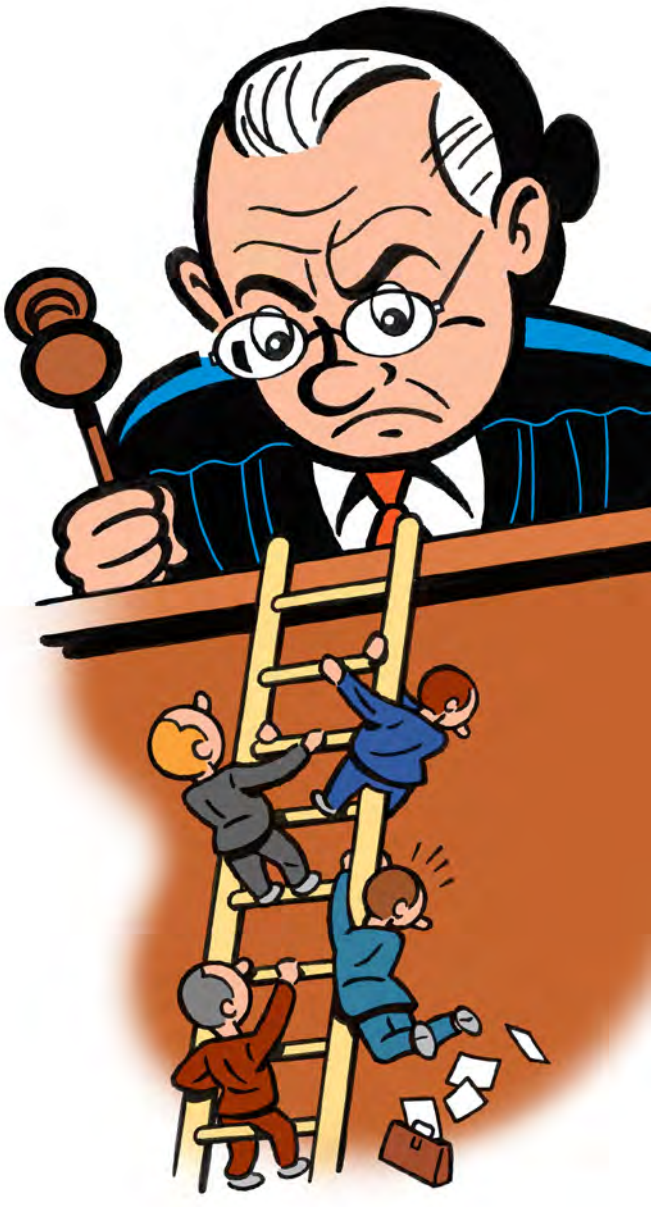
Q: When are blatantly anticompetitive acts not a violation of antitrust laws?

A: When lawmakers say so.

More often than not, state regulation of business practices impedes innovation, raises costs and distorts markets. Most of these rules predate the Internet – indeed, some predate the revolution in commerce that brought us everything from direct marketing to big-box stores. However, they remain on the books, invisible to consumers and protected by the lobbying dollars of the incumbent businesses they protect.

But this sleeping dog may not snooze indefinitely. A light has been shown on these hitherto obscure laws, thanks in part to Tesla Motors' high-profile effort to sell its electric cars through company-owned stores, much as Apple sells iMacs and iPhones. Auto dealers, who once derided electric cars as niche vehicles for tree huggers, now view the Silicon Valley upstart as a threat and have used franchise laws to block Tesla's direct sales in numerous states. The goal is to protect local dealers from competition that would erode their market – and, in the best traditions of modern capitalism, force them to be more cost-effective and service-oriented.

Like the various laws that protect and subsidize the "family farm" – you know, those 2,000-acre grain factories run by mom, pop



LOU BROOKS

Lawrence M. Fisher writes about business for *The New York Times* and other publications.

and $4 million worth of machinery – state economic regulation is rooted in historical circumstances. Indeed, it may have been justifiable in economic terms at one time. For example, a century ago it was arguably a good idea to protect grieving families of the dead from fly-by-night embalmers by licensing funeral directors. It makes no sense today to use such laws to block inexpensive crematoriums or online casket sales. (More about that later.)

By the same token, the small businesses that sprang up to distribute automobiles in the 1920s may have needed protection from manufacturers who demanded big local investments, yet felt free to cancel the relationships or establish other dealers a few miles away. But today's corporate multibrand dealerships can take care of themselves without help from Big Brother. And they certainly can't justify using their legal muscle to prevent Tesla from competing directly in terms of either fairness or efficiency.

Meanwhile, the three-tier distribution system for alcoholic beverages – producers must sell to distributors who sell to retailers – is a states-rights legacy of the repeal of Prohibition and clearly did not anticipate the blossoming of boutique wineries, microbreweries and artisan spirits makers in the last two decades that target national and international markets through the Internet.

But a puzzle lurks. When Borders and Barnes & Noble decimated the ranks of independent bookstores – and when Amazon subsequently ate the chain stores' lunch on the Internet – there was plenty of teeth gnashing, but no legislation. When the specialized dealers in PCs, like CompUSA, MicroAge and Businessland, were undone by big-box consumer electronics stores like Best Buy, Apple's glitzy stores and Dell's direct-to-consumer approach, there was little outcry. How, then, have some incumbent businesses successfully commanded state protection from what the economist Joseph Schumpeter famously called creative destruction?

The short answer is that independent booksellers lacked the deep pockets and organizational strength of the National Automobile Dealers Association. The laws protecting business turf are primarily state, not federal, statutes. And any Johnny-come-lately who seeks to come between state legislators and their benefactors among the car dealers is likely to face a cold reception. Lobbyists for the dealers are quick to note that they are pillars of the community who sponsor Little League and the Kiwanis Club's charity drives. Equally to the point, they are also big donors to political campaigns. Woe betides the politician who crosses them on behalf of some out-of-state competitor spouting the virtues of competition.

Your Friendly Neighborhood Automobile Trust

In the first two decades of the 20th century, the auto industry distributed its products every way imaginable. Cars were sold directly through factory stores, mail order and consignment, and indirectly through department stores, traveling salesmen and wholesale distributors – and even through the Sears catalog. But as supply caught up with demand, the hodgepodge began to rationalize. From 1923 to 1929, "the leveling of demand for new cars logically resulted in a change of emphasis from production to distribution," wrote Alfred P.

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Sloan Jr., the godfather of General Motors. "On the [retail] sales end, that meant a change from easy selling to hard selling. Dealer problems of an entirely new nature began to arise."

Manufacturers took over wholesale distribution, while wholesalers morphed into retailers. These franchised dealers took on warranty repair and regular maintenance, and provided a means to trade in used cars for new ones. They were contractually obliged to invest in service facilities and were expected to maintain significant inventories so that buyers could drive home new cars the same day they shopped. Dealers, moreover, became vulnerable to "channel stuffing" – being forced to take on more inventory than they could possibly sell at a profit – a manipulative strategy reportedly pioneered by Henry Ford in the 1920's.

Dealers sought succor in new laws. "The car dealers went about getting protection after the Great Depression. But it's in the 1950s that we start seeing regulations like the Automobile Dealers Day in Court Act," which increases dealers' leverage to seek damages in federal court for abuses of franchise agreements, explained Francine Lafontaine, a professor of business economics and public policy at the Ross School of Business at the University of Michigan. "Maybe at some specific time there was a benefit, but then these dealers became entrenched. The results are higher prices for consumers at the end of the day."

Although the act is a federal statute, most of the laws protecting franchise dealers were passed at the state level. Lafontaine says that the state laws have been successfully used to block manufacturers from canceling dealerships because of falling demand, as after the 2008 financial crisis, or in response to customer complaints or shady behavior. All states require auto dealers to be licensed, which has effectively stymied Internet distribution of cars. Thus, sites like Carsdirect.com and Cartelligent.com (as well as brick-and-mortar enterprises like AAA and Costco) do not sell cars, but rather negotiate discounts with franchise dealers.

The licensing requirement also effectively blocks auto manufacturers from selling directly to consumers because most states will not license them as dealers. As long as there were no new entrants in auto manufacturing, which was the case for many decades, this requirement protected the franchisees' legal cartel.

When Tesla launched its $109,000 Roadster in 2008, the conventional wisdom was that the latest coming of electric cars would fail just as earlier iterations had, fatally handicapped by high battery cost and short driving range. Never mind that the speedy two-seater went 200 miles on $5 worth of electricity. Tesla sold the Roadster direct to customers – at first from the factory, later through a few stores. But the dealers' lobbies didn't pay much attention because it was a pricey vehicle that would appeal only to rich greenies.

Perceptions changed a bit with the introduction of the Tesla Model S, a sleek $70,000 sedan aimed squarely at the Audi/BMW/Mercedes crowd. And alarm bells truly sounded when *Consumer Reports* gave its highest rating ever to the S, and the electric newcomer charted sales exceeding the comparable conventional models from that Teutonic triumvirate. As Tesla stores started opening across the United States and abroad, franchise dealers circled the wagons and called their state legislators.

As this is being written, Tesla has storefronts in 22 states and Washington, D.C., in spite of the fact that 48 states have laws that limit or ban manufacturers from selling vehicles directly. Meanwhile, dealership associa-

As this is being written, Tesla has storefronts in 22 states and Washington, D.C., in spite of the fact that 48 states have laws that limit or ban manufacturers from selling vehicles directly. Meanwhile, dealership associations in multiple states have filed lawsuits against Tesla, trying to kill the infant in its crib.

tions in multiple states have filed lawsuits against Tesla, trying to kill the infant in its crib – or at least to get Tesla to put the crib under their protection. In states that prohibit direct sales, like Virginia and Texas, Tesla operates "galleries," which resemble its stores. But they cannot take orders, or even discuss price and financing options.

Texas has the most stringent law, requiring all new cars to be purchased through independent dealers. Texans may still purchase vehicles from Tesla, but the transactions must be handled out of state. This may result in loans with higher interest rates and the inability to finance Texas state sales tax owed as part of the car loan. Also, buyers cannot take advantage of Tesla's personal delivery service. New owners, moreover, must register the vehicles and pay the sales tax themselves.

Tesla's effort to persuade the Texas legislature to open the door to direct sales may not prove as futile as one might expect. Indeed, Tesla's strategy of demanding marketing concessions from states if they are to have any chance of inducing Tesla to build production facilities in their jurisdictions suggests why the dealers' market power may be vulnerable. Texas is one of five states lobbying to be the site of Tesla's planned $5 billion mega-factory, where it will mass-produce lithium-ion batteries in partnership with Panasonic.

New Jersey, which initially licensed Tesla stores, abruptly switched sides in March. Elon Musk, Tesla's chairman and chief executive, wrote an open letter to New Jersey citizens, asserting that, after initially promising to put the matter to a vote by the state legislature, Gov. Chris Christie caved to the auto dealers.

Musk did not mince words. "The rationale given for the regulation change that requires auto companies to sell through dealers is that it ensures 'consumer protection,'" he wrote. "If you believe this, Governor Christie has a bridge closure he wants to sell you! Unless they are referring to the Mafia version of 'protection,' this is obviously untrue. As anyone who has been through the conventional auto dealer purchase process knows, consumer protection is pretty much the furthest thing from the typical car dealer's mind."

In May, dealers in Missouri took dead aim at Tesla, proposing amendments to another bill that would force consumers to purchase all new vehicles through franchised dealers. The current Missouri statute only bars franchisors from competing against their franchisees. Ford, for example, cannot compete with Ford dealers.

All this activity at the state level has not gone unremarked in Washington, where three members of the FTC's professional staff weighed in. In a blog post titled "Who decides how consumers should shop?" Andy Gavil, Debbie Feinstein and Marty Gaynor turned a

gimlet eye toward the dealers. "How manufacturers choose to supply their products and services to consumers is just as much a function of competition as what they sell – and competition ultimately provides the best protections for consumers and the best chances for new businesses to develop and succeed," they wrote. "Our point has not been that new methods of sale are necessarily superior to the traditional methods – just that the determination should be made through the competitive process."

NADA, the aforementioned dealers' trade association, begs to disagree. "State franchise laws create fierce competition between local new-car dealerships, which drives down prices both within and across brands," said Jonathan Collegio, vice president of public affairs for NADA. "When three Ford dealers compete for the same customer, the customer wins, period."

Not so fast, say economists, some 70 of whom wrote a letter to Christie urging an end to the direct sales ban:

> The automotive industry in the United States (and New Jersey is no exception) is competitive; no manufacturer has anything like a monopoly. Tesla in particular, as an upstart new entrant, has a market share in New Jersey of less than 1 percent. But even if Tesla *did* have a degree of market power sufficient to extract monopoly prices, prohibiting direct distribution would not be likely to introduce more competition or lower average prices.

"The likelihood that Tesla will successfully convince federal courts to invalidate the various state auto dealer franchise laws in their entirety is remote," opined Roger M. Quinland, a franchise law attorney with Gordon & Rees. "Tesla's greatest chance for success lies in convincing the courts that narrow exemptions from state regulations should be tailored for the company, based upon its unique status in the automotive marketplace."

In any case, the very visibility of the battle may prove a win for Tesla, whatever courts and legislatures decide. "As Tesla's dealer fight rages on, the company gets plenty of press that enables it to explain what's unique about its approach to selling vehicles," the online investment site Motley Fool wrote, noting that Tesla does not advertise. Tesla's vice president of business development, Diarmuid O'Connell, concurs. "I think that it's been extraordinarily rewarding," he told *The Wall Street Journal*. "It's been vastly worth the effort."

The American Way of Funerals?

In 2011, David Harrington, a professor of economics at Kenyon College, testified on behalf of the monks of St. Joseph Abbey who were barred from selling their handmade wooden caskets in their home state of Louisiana because they were not licensed funeral directors. The monks won their case in federal court. But similar laws remain on the books in many states.

"In the states that have the most restrictive laws," Harrington said, "they're primarily aimed at protecting small, mostly family-owned funeral homes from competition. They create barriers to entry for no-frills cremation operations – but also for national chains, which tend to focus at the high end, with more pricey funeral and cemetery combinations."

State funeral home licensing requirements largely date to the early 20th century. Initially,

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Harrington says, they were motivated by health concerns. Some experts believed that cemeteries caused epidemics and that the spread of disease could be reduced by embalming. In the 19th century, families had typically prepared the dead for burial themselves, making their own caskets or purchasing them from local carpenters, and arranging delivery to the cemetery with whoever owned a suitable carriage. Early regulations were intended to protect the public from poor-quality embalming, but also served to impart professional status to funeral home operators and spare them price competition.

Today, embalming is most associated with the traditional funeral, which calls for the body's display in an open coffin. But 39 states have ready-to-embalm laws that require all firms offering funeral services to maintain an embalming room at each of their facilities, regardless of whether they offer embalming services. Embalming rooms must conform to strict size and material standards. So these laws significantly increase costs to firms specializing in cremations – and also to funeral home chains, which might otherwise realize economies by consolidating their embalming facilities in single locations.

Many states prohibit cemeteries from operating mortuaries, some prohibit anyone other than licensed funeral directors from selling caskets, while others make it difficult for anyone other than funeral directors to own funeral homes. All of these measures create barriers to competition and increase costs.

That's hardly a new revelation: Jessica Mitford's seminal work, *The American Way of Death* (1963), portrayed funeral directors as predatory salesmen pushing grieving customers into overpriced goods and services, an image that has been reinforced by subsequent analyses. A decade-long study by the FTC resulted in the federal *Funeral Rule of 1984*, which mandated more transparent pricing and no-frills options. But funeral costs have continued to rise.

Harrington blames state regulations. "It's like a spider's web," he said. "The states that are the most anticompetitive have all these strands of regulation, and they weave this web so they have redundancy of regulation. If you remove one strand, the web still holds. The funeral directors' associations in a lot of states are among the most powerful lobbying organizations. Local funeral home operators are very heavily involved in their churches. And if you look at subcommittees or committees in state legislatures, they are headed by representatives who are currently funeral directors. They have pretty much a lock on blocking any reform."

Law of Unintended Consequences

In 1933, the 21st Amendment repealed the 18th Amendment to the U.S. Constitution, thus bringing an end to the 14-year sociobiochemical experiment known as Prohibition. It's worth noting that the prohibition of alcoholic beverage sales did reduce consumption, the stated aim of the ungainly coalition of do-gooders and religious fundamentalists that spurred passage of the law. But it had myriad unintended consequences, including the growth of organized crime, a sharp increase in deaths from tainted booze and the criminalization of broad swaths of society. It also increased social and economic inequality:

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The wealthy could maintain private stocks of imported wine and spirits with impunity while the poor were jailed for making bathtub gin. (Any resemblance to current drug policy must surely be coincidental.)

The authors of the 21st Amendment paid lip service to the temperance movement's goal of reducing alcohol abuse. But they left the details to the states, giving them authority to decide when and how to organize and regulate alcohol sales. All of them enacted regulations in which single ownership of all three tiers (production, distribution and retail) was partly or totally barred. Only Washington, a wine-making state, has since entirely abandoned the three-tier approach (in 2011).

Arguably, the three-tier system worked reasonably well in the first few decades after repeal, which saw the consolidation of countless regional beer, wine and spirits producers into big national brands and the simultaneous proliferation of wholesale distributors. Then the process began to reverse, first in the 1960s with the emergence of boutique wineries, then typified by Robert Mondavi, Ridge Vineyards and Freemark Abbey; later in the 1970s with the first microbrewers like Anchor, New Albion and Sierra Nevada; and in the 1980s with craft distillers like Germain-Robin, St. George Spirits and Clear Creek Distillery. The distribution tier went through consolidation during these decades so that today there are far fewer, but vastly larger, distributors. Small producers say they struggle even to be noticed and get lost in the big distributors' portfolios, all the while surrendering profits they can't spare.

"State laws continue to empower distributors to select brands and manage them however they want – selling those they choose to sell, while letting other brands sit in their warehouses," wrote Steve Hindy, president of Brooklyn Brewery. "The only recourse is to sue, and many small breweries lack even a fraction of the resources needed to take on a big distributor in court. As a result, they're stuck with the bad distributor, which severely hampers their ability to perform and grow as a business." Freeing his brewery from a particular distributor cost him more than $300,000 in legal fees and settlement charges.

State laws have also prohibited wineries from shipping their products directly to consumers, which can often be the only way a small operation can survive. Court challenges have chipped away at these laws. Most notably, in 2005, the Supreme Court decided that, while states could prohibit direct shipments of wine, they could not simultaneously allow direct sales by in-state wineries and bar imports from other states.

"As a general matter, the wine producers favored direct shipment," explained Jerry Ellig, a senior research fellow at the Mercatus Center at George Mason University, and a former FTC official. "The big California wine industry was not really worried about competition from Kentucky or Virginia. The two folks who tended to oppose it were states that had these laws, and wine and spirits wholesalers. They generally would oppose anything that would allow people to get around the distribution tier."

Ellig studied wine prices before and after Virginia passed a law permitting direct sales. "We found that the spread between online and off-line prices diminished," he said.

But distributors retain significant clout. "Together, the nation's two largest wholesalers – Southern Wine and Spirits and Republic National Distributing Company – have revenues of about $13 billion," David White, editor of the wine blog Terroirist, wrote in *The New York Times*. "A chunk of that cash is funneled to lawmakers. The National Beer Wholesalers

Association maintains the nation's third-largest political action committee, and since 2000, it has donated $15.4 million to candidates for federal office. … In the past decade … the Wine and Spirit Wholesalers of America spent $9.3 million." All told, he estimates that anticompetitive regulation of distribution increases retail prices by as much as 25 percent.

The Fill-in-the-Blank Industry Is Different

Regulation, in general, is deeply unfashionable among owners of small to midsize businesses. Except, of course, when it comes to regulation that protects incumbent enterprises. Automobile sales, alcoholic beverage distribution and funeral services share little in common, yet incumbents in each claim they are uniquely deserving of special favor.

Jonathan Collegio of NADA took particular exception to my suggestion that small bookstores or PC dealers ought to have sought sanctuary in state law. "It's a major fallacy to compare buying cars with buying other goods, like books or computers," Collegio said. "Cars are major purchases that require licensing, insurance, complex financing involving trade-ins; contain hazardous materials; and, if operated incorrectly, can cause serious bodily injury."

That still doesn't explain why Tesla shouldn't be allowed to operate its own stores, which by all accounts do a fine job with the minimal service an electric car requires, and can write finance contracts with the best of them.

"When I was at the FTC, we held a series of hearings on these laws," Ellig recalled. "It was almost comical because we had separate panels on wine, autos, legal services, health care and telemedicine, charter schools. … All these panelists would come and testify and they hadn't listened to the other panels, so the auto guys would say, this isn't like wine and cheese, this is unique. The alcohol distributors said this isn't like cars, and legal services said they were not like wine or cheese or books. Everyone was saying there was a unique reason that states should protect their industry, and only their industry, from competition."

* * *

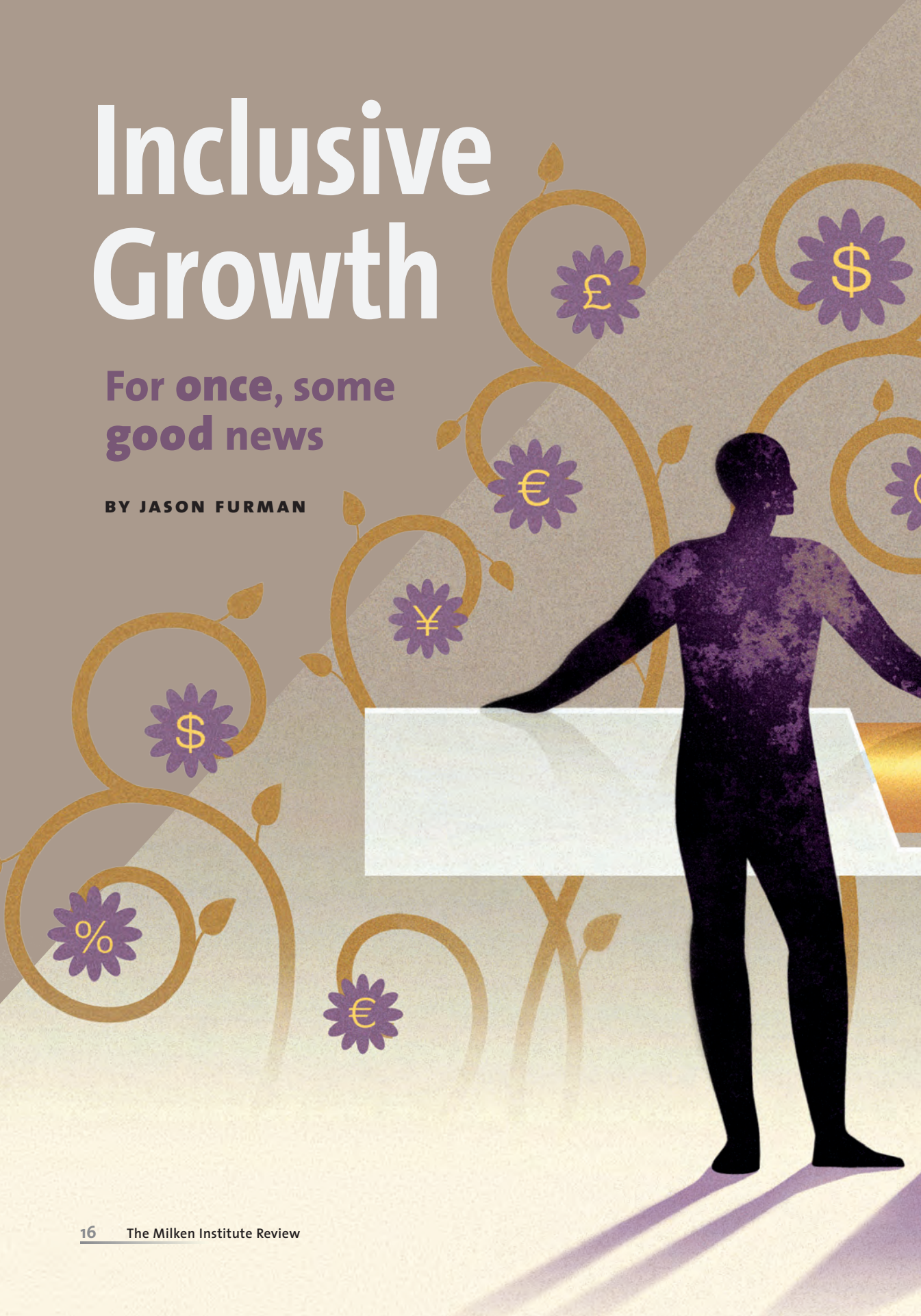
By this point, I expect most readers have concluded that it is difficult to be optimistic that competitive market forces will triumph in these jealously guarded fortresses of economic privilege. Difficult, but hardly impossible. American economic history is full of examples of such privilege being eroded or broken, largely by changes in technology, the rise of countervailing business interests and/or growing public awareness of who foots the bill. Thus steel-consuming manufacturers managed to eliminate import protection for high-cost iron and steel makers, aided in no small part by the rise of domestic "mini-mills" that thrived without protection. By the same token, the rail and airline industries were unable to prevent economic deregulation once they lost control of their regulators and passengers tasted the fruits of competitive pricing.

Indeed, one can spot erosive forces at work in the three industries discussed here, as Tesla takes its complaints to a national stage, the funeral industry consolidates and an array of small wineries and craft beer producers take on the giant distributors. In healthy economies, anyway, competition doesn't stay dead for long.

Inclusive Growth

For once, some good news

BY JASON FURMAN



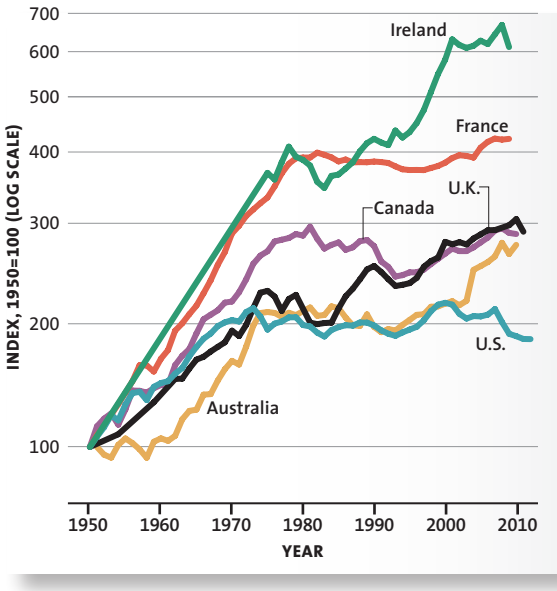
I expect the U.S. economy will complete its recovery from the Great Recession. But even after it does, Americans will still face two related economic problems that have been building for decades: the failures to generate sustained gains in income for middle-class households and to combat falling living standards for many near the bottom of the income distribution. While much of the developed world is dogged by the same issues, my focus here is on what's happened in the United States – and, importantly, why we need not choose between economic growth and ensuring that the benefits of growth are broadly shared.

THE GRIM NUMBERS

A number of indicators offer a broad sense of living standards, but one that has the advantage of being available across a host of countries and many decades is the average inflation-adjusted income for the bottom 90 percent of households. After rising strongly in most OECD economies in the postwar years until about 1980, it has been roughly flat since then – though I should offer the important caveat that income measures that include employer contributions to health insurance and other benefits are, at least in the United States, still rising slowly.

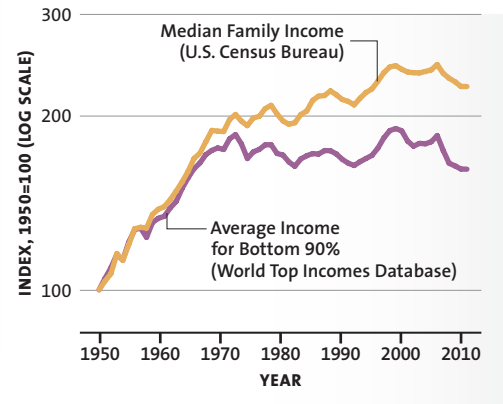
In the case of the United States, and I suspect other countries as well, the path of average incomes for the bottom 90 percent broadly tracks median household income. The story it tells is stark: even though GDP grew between 2001 and 2007, the typical family did not share in the gains – the first time an economic expansion has not translated into rising middle-

GROWTH IN REAL AVERAGE INCOME FOR THE BOTTOM 90 PERCENT



NOTE: Ireland data is based to 1943=100 and missing for 1944–1974. UK and Canada series have breaks in 1990 and 1982, respectively. Australia is indexed to 1951=100.
SOURCE: World Top Incomes Database; CEA calculations

TWO MEASURES OF REAL INCOME GROWTH FOR THE UNITED STATES



SOURCE: World Top Incomes Database; U.S. Census Bureau; CEA calculations

PREVIOUS PAGE: STUART BRIERS

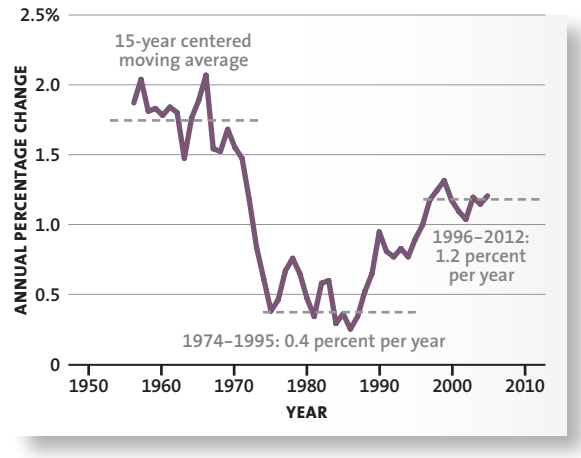
class incomes. Incomes subsequently fell in the Great Recession, implying that, over all, there has been no net increase in incomes for the less-than-affluent since the late 1990s.

The reasons for this sobering outcome vary from country to country, but two broad forces are generally at play. The first (which is less important in the United States) is productivity growth. In the United States, total factor productivity (the total output generated by a given quantity of capital and labor) grew rapidly after World War II as military innovations were commercialized. But it slowed drastically in the wake of the oil shock in the early 1970s. Productivity gains revived a bit – but only a bit – starting with the "new economy" in the mid-1990s. And this incomplete recovery explains in part the failure of the bottom 90 percent to make economic headway since the 1970s, especially in the past two decades.

It is worth noting that slowing productivity growth is a much more important part of the explanation for why income growth has lagged in continental Europe. Several of the large European economies enjoyed very rapid productivity increases in the decades after World War II, as they rebuilt their economies and moved closer to the technological frontier largely created by the United States. But this was catch-up, and thus temporary. As the effects of World War II receded and the technology gap narrowed, many continental European economies saw their productivity growth slow. Moreover, they never experienced the modest rebound the United States did in the wake of the 1990s digital revolution.

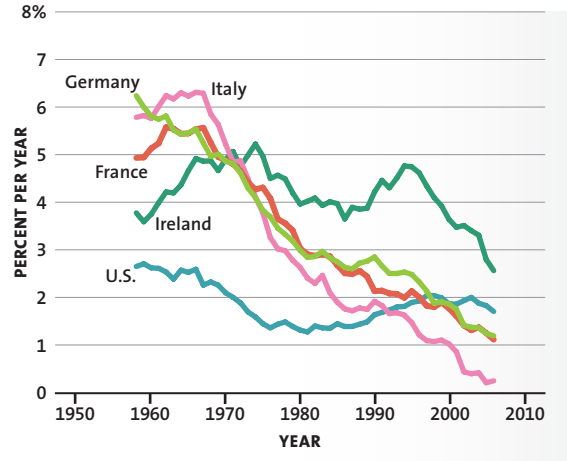
In the United States (and other OECD countries to varying degrees), the primary source of the failure to generate sustained gains in middle-class incomes has been the fact that productivity growth has not translated into commensurately higher middle-class incomes. The fissure is particularly stark

GROWTH IN U.S. TOTAL FACTOR PRODUCTIVITY



SOURCE: Bureau of Labor Statistics; CEA calculations

15-YEAR CENTERED MOVING AVERAGE OF ANNUAL LABOR PRODUCTIVITY GROWTH



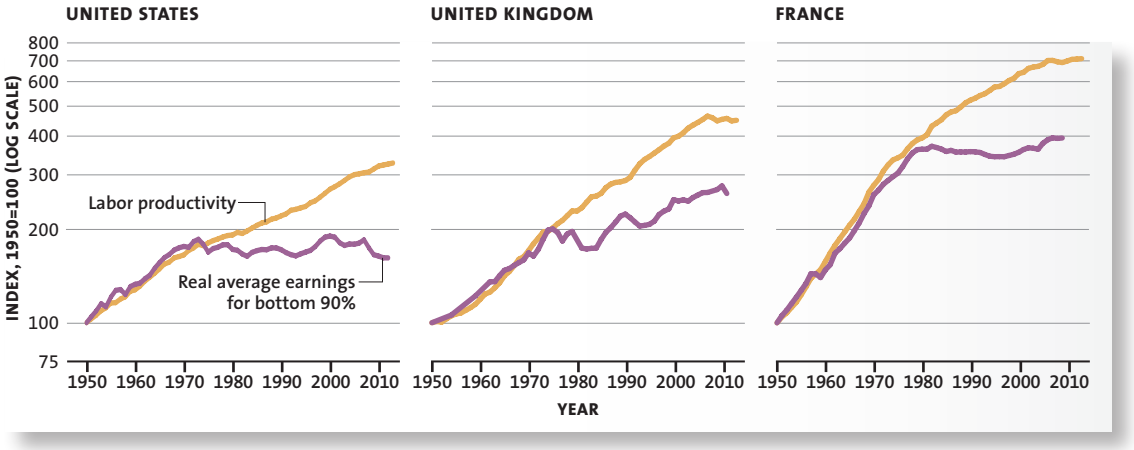
SOURCE: Conference Board; CEA calculations

in the United States – but almost as troubling in Britain and France (*see graphs on next page*).

SOURCES OF THE INCREASE IN U.S. INEQUALITY

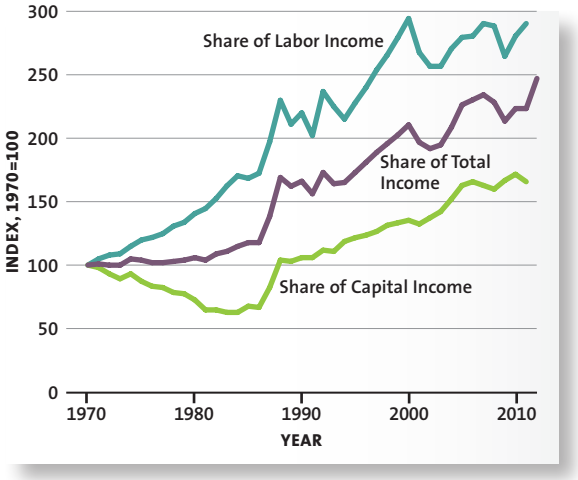
Traditionally, research on inequality has focused on inequality within labor income. Partly that is because labor compensation represents the bulk of all income, and changes

PRODUCTIVITY GROWTH AND AVERAGE BOTTOM 90% INCOME GROWTH



SOURCE: World Top Incomes Database; U.S. Census Bureau; CEA calculations

SHARE OF TOTAL, LABOR, CAPITAL INCOME ACCRUING TO TOP 1%



SOURCE: Piketty & Saez; CEA calculations

in its distribution have (with important caveats) been the largest driver of inequality. Partly it is because we have better theories about the workings of labor markets than of capital markets, and better data to test them.

But this is changing. One of the vital contributions of *Capital in the Twenty-First Century*, the much-discussed new book by the French economist Thomas Piketty, is to highlight the reality that the pace of investment and the returns to capital also play an important role in determining trends in income inequality.

Decomposing the Increase in Inequality

Following Piketty, it is illuminating to decompose the sources of inequality into:

- Inequality within labor income
- Inequality within capital income
- The division of income between labor and capital

Each has different causes, dynamics and policy implications. Piketty does not measure their relative contribution to changes in inequality in the countries he studies. But I've attempted to do the numbers here, quantifying the changes in inequality in the United States using data from multiple sources: Piketty and his co-researcher Emmanuel Saez, the Congressional Budget Office, and the U.S. National Income and Product Accounts (estimated by the Department of Commerce). Unfortunately, a variety of technical issues make

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The higher up the income ladder you go, the less the overall increase in inequality is explained by inequality within labor income and the more it is explained by inequality within capital income.

INCREASE IN INCOME SHARE ACCOUNTED FOR BY INEQUALITY WITHIN LABOR INCOME

	TOP 10%	TOP 1%	TOP 0.1%	TOP 0.01%
Income Including Capital Gains				
1970–2010 (Piketty-Saez)	83%	68%	53%	39%
1980–2010 (Piketty-Saez)	71%	54%	59%	35%
1990–2010 (Piketty-Saez)	64%	51%	53%	37%
1980–2010* (CBO)	70%	42%		
1990–2010* (CBO)	64%	31%		

NOTE: Values for any given year calculated as a centered three-year moving average.
*CBO estimates for 2010 are of that year alone

this decomposition less than an exact science. But a few broad conclusions do stand out.

Start with the results using data derived from Piketty and Saez. The top 1 percent's share of total income rose from 8 percent in 1970 to 17 percent in 2010. Throughout this period the top 1 percent's share of labor income rose steadily, but its share of capital income began a sustained rise only around 1990. All told, 68 percent of the increase in income for the top 1 percent across the four decades follows from increased inequality within labor income and 32 percent from increased inequality within capital income. Shifts in the division of income between labor and capital had no impact.

But capital looks a lot more important when one focuses on either the extreme upper end of the income distribution, or on changes in inequality in the most recent decades. The table above shows the relative importance of the distribution of income within labor in explaining the increased share of income going to the top, with estimates based on different sources of data and different periods.

The higher up the income ladder you go, the less the overall increase in inequality is explained by inequality within labor income and the more it is explained by inequality within capital income. There is a strong temporal pattern as well, with inequality within capital income becoming increasingly important over time. The relevant CBO data go back only to 1979, and do not show any finer cuts than the top one percent. But they tell a similar story.

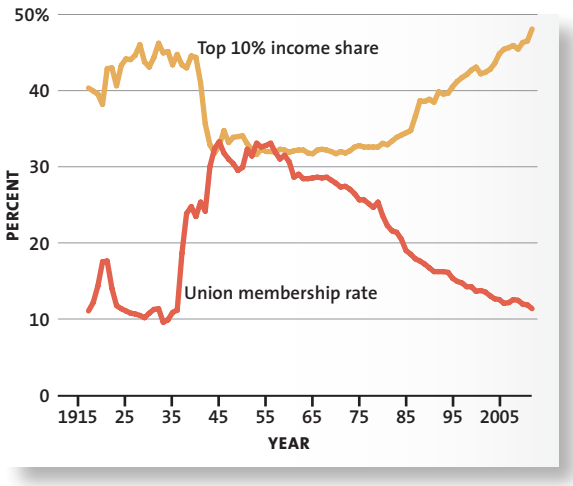
Inequality within Labor Income

Among the very top earners (the top 0.1 percent), about two-fifths of the income goes to managers in non-financial industries, about one-fifth to financial professionals, and the remaining two-fifths is spread across other occupations – notably, law, medicine, real estate, private business ownership, arts, media and sports. Explanations put forward for this phenomenon include:

- The increased return to skills, in large part due to a combination of the increased reach of corporations, entertainment and sports in global markets
- The slowdown in gains in educational attainment
- Changes in corporate cultures that have facilitated disproportionate increases in the compensation of senior managers

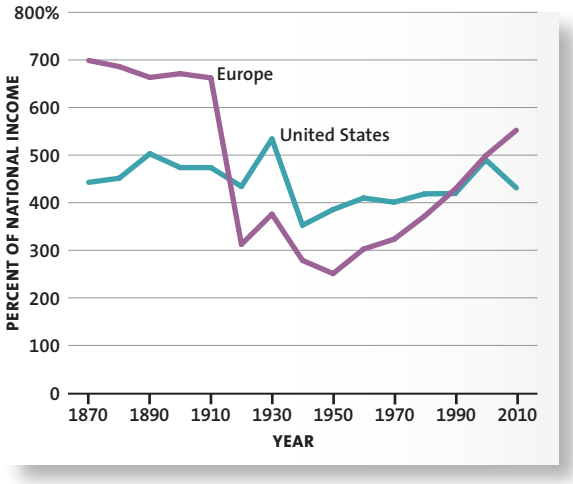
These factors, along with institutional

U.S. UNION MEMBERSHIP AND TOP 10% INCOME SHARE



SOURCE: World Top Incomes Database; Economic Policy Institute

TOTAL CAPITAL IN THE UNITED STATES AND EUROPE



SOURCE: Piketty (2014); CEA calculations

changes, including the decline in unionization, are also important in explaining changes in the middle of the earnings distribution. The decline in the real (that is, inflation-adjusted) value of the minimum wage has had a particularly large impact on the bottom of the distribution.

Inequality within Capital Income

The second source of increased inequality can be attributed to changes in the distribution of capital income. In part, this is linked to the secondary impact of overall income inequality: Very affluent people save more, which feeds inequality in wealth. But it also follows from the facts that wealthier investors tend to receive higher returns on their investments, and that tax rates on capital income have been cut in recent decades.

The forces driving inequality within capital income have been studied much less than labor-income inequality. But the subject clearly merits more attention in light of its increasing importance. Indeed, rising capital-income inequality explains a majority of the increase in inequality for the very top of the income distribution over the past 40 years, and is an even more important factor in the past 20 years.

Piketty points to the relationship between the returns to wealth and a nation's economic growth rate as the crucial determinant for changes in inequality. In Europe, total wealth was seven times annual income in 1870. But wealth destruction in two catastrophic wars in the first half of the 20th century cut this to about two and a half times annual income in 1950, with only a partial recovery since.

In the United States (which lost far less wealth to war in that period and averaged faster economic growth), the ratio of wealth to annual income has held steady at about four to one for the last 140 years. The crux of Piketty's argument is that the higher growth rate in the United States has resulted in a society with a higher income level relative to the accumulated wealth from the past.

The Division of Income between Capital and Labor

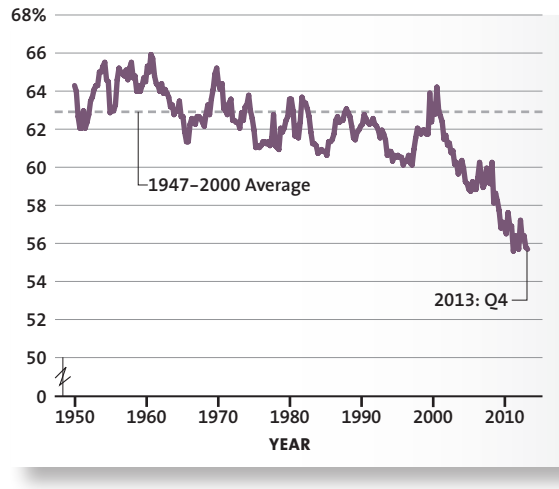
Wealth, and the income derived from wealth, is much more unequally distributed than labor

Rising capital-income inequality explains a majority of the increase in inequality for the very top of the income distribution over the past 40 years, and is an even more important factor in the past 20 years.

income. Thus, all else equal, when labor's share of income falls, income inequality rises. In Europe, the share of income going to labor has been falling since about 1970, roughly the inverse of the overall rise in wealth (as one would expect). In contrast, in the United States, a marked decline in labor's share occurred only after 2000.

The relative importance of this factor in the overall increase in inequality is harder to quantify because the data from Piketty-Saez and the CBO do not show a declining labor share of income after 2000, in part because of technical issues in distinguishing capital income from labor income for the most affluent. Using a different data set, one used to produce the official U.S. GDP statistics, the shift from labor income to capital income is responsible for roughly one-fifth of the overall increase in inequality since 1970. These data partly contradict the Piketty-Saez and CBO data, so the truth could lie somewhere in between.

LABOR'S SHARE IN NON-FARM BUSINESS INCOME



SOURCE: Bureau of Labor Statistics; CEA calculations

THE OUTLOOK FOR INEQUALITY

The most striking argument in Piketty's book is that a slowing of growth will inevitably lead to a sustained increase in inequality. He argues that the distribution of wealth is a function of the after-tax rate of return on capital minus the growth rate of GDP, or $r-g$. It is intuitive that wealth grows along with the after-tax return on capital (r), while wages grow along with GDP growth (g). Piketty projects that g will decline over the next century because of demographic factors, and possibly other factors as well. If r does not fall by as much as g, Piketty argues that wealth will become proportionately more important than earned income in determining the degree of inequality, raising the share of income going to capital and thus raising overall inequality. Piketty further argues that the increased importance of wealth will also result in the increased importance of inherited wealth in driving inequality.

Viewing the dynamics of inequality through this simple lens is both intriguing and disturbing – though it is unclear how much insight it actually yields. Piketty predicts that capital's share of total income will rise, pushing in the direction of increased inequality. But capital's share is only one determinant of

Newer research has identified a number of mechanisms by which greater equality could *increase* the level of output or its growth rate.

inequality. A more important factor to date has been changes in inequality among labor income earners. Yet, for reasons not clear, Piketty assumes no future changes. Labor income inequality, after all, is tied to a mix of difficult-to-predict factors ranging from technological developments to trends in CEO compensation to changes in minimum wages.

Moreover, economic theory offers little insight into whether slower GDP growth would, in fact, result in a rise in $r - g$. In general, when the rate of GDP growth falls, the ratio of capital to income rises – which tends to drive down the rate of return on capital. Whether the return on capital falls more or less than the growth rate falls depends on the ease with which capital can be substituted for labor: The lower the substitutability, the more r will decline as capital is added. Unfortunately, the degree of this substitutability has not been estimated with much confidence.

The return on capital is also influenced by households' willingness to save. And with people expecting to live longer in retirement, people are likely to adapt by saving more regardless of interest rates – further driving down the return on capital.

As a result, theory offers no certain answer whether $r - g$ would increase or decrease as a result of slower GDP growth. In fact, many standard economic models implicitly assume that r would fall by more than g. If that is indeed the case, slower growth would lead to a reduction in $r - g$, and consequently push in the direction of less inequality rather than more.

It's worth noting that, separate from Piketty's argument about increases in capital's share of income, it is plausible that continuing increases in income inequality within capital income will occur simply as a result of the large increases in inequality within labor income that have already occurred. Those made rich by the inequality of labor income will probably amass significant wealth.

THE RELATIONSHIP BETWEEN INEQUALITY AND GROWTH

There are good reasons to believe that causality runs both ways between inequality and economic growth, and by tortuous routes. This makes it difficult to be confident about analyses of the links between the two, but it is still possible to draw some tentative conclusions.

The Effect of Inequality on Growth

There is voluminous research on the ways that specific policies change individuals' and firms' incentives – and, in the process, affect economic efficiency and income distribution. Among the most cited findings is the trade-off between equity and efficiency. Hence, the often repeated "leaky bucket" metaphor coined some 40 years ago by Arthur Okun in describing the allegedly inevitable waste in policies designed to promote equity:

> The money must be carried from the rich to the poor in a leaky bucket. Some of it will simply disappear in transit, so the poor will not receive all the money that is taken from the rich.

But the evidence is mixed, with researchers concluding that some income-support policies can positively affect both equity and efficiency. Moreover, the policy mix itself has

changed toward measures less likely to generate inefficiency. For example, in the United States, traditional welfare programs have been eclipsed by tax credits that are both administratively less costly and create less disincentive to work. Meanwhile, welfare programs themselves have been substantially overhauled to reduce disincentives to work.

Traditional macroeconomic theory has also led economists to conclude there is a trade-off between equality and growth. The point often emphasized: Since high-income households save more, greater inequality translates into more savings and investment, and in turn, more output.

But newer research has identified a number of mechanisms by which greater equality could *increase* the level of output or its growth rate. The logic starts from the observation that the impact of the quantity of capital in determining output is dwarfed by the quality of capital, along with technology and entrepreneurship. Moreover, pervasive market failures – in which prices do not reflect opportunity cost – mean that the efficiency of outcomes may depend on the distribution of income. In particular, this approach emphasizes a number of channels by which inequality could harm growth by:

- Reducing access to the education necessary for labor to reach its full potential
- Reducing entrepreneurship and willingness to take risk
- Undermining the trust needed for a decentralized market economy to function efficiently
- Generating political instability that increases business uncertainty

Until recently, the macroeconomic evidence was ambiguous; it would be fair to say that, at a minimum, it has ruled out large negative effects on growth from progressive

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policies that reduced inequality. But the latest cross-country statistical analysis from Jonathan Ostry, Andrew Berg and Charalambos Tsangarides at the IMF using a better data set is more encouraging – although, like all results from cross-country evidence, it should still be taken with a grain of salt.

The study finds that, other things equal, greater inequality has a *negative* impact on both the rate of growth and its sustainability. Moreover, progressive policies in themselves have no statistically significant impact on the rate of growth, with a small caveat that policies redistributing income to households in the top 25 percent – presumably, via non-means-tested entitlements – could have a small negative effect on growth. It follows that, to the degree progressive policies reduce inequality, they spur growth.

To put these findings in context, I apply them to the recent U.S. experience. Since 2009, the United States has made three sets of permanent changes to its tax code:

- Many of the tax cuts for high-income households that were passed in 2001 and 2003 were allowed to expire in 2013.
- New taxes dedicated to Medicare (a 0.9 percent tax on earned income and a 3.8 percent tax on investment income) were placed on high-income households in 2013.
- Tax credits for lower-income households with children and for college students were expanded for 16 million households by an average of $900. (These expansions expire after 2017, but President Obama has proposed to make them permanent.)

Taken together, these policies will reduce the Gini coefficient, a standard measure of inequality, by 0.6 index points – the equivalent of a rollback of about half a decade of drift toward greater inequality.

Using the estimates from the IMF study, these tax changes should add 0.06 percentage points to the annual growth rate. At first glance, this seems trivial. But after a decade, it would translate into about $500 extra per year for a typical family of four. And this is on top of the direct benefits of the tax cuts accruing to lower- and middle-income households. Moreover, these estimates do not include the impact of the Affordable Care Act, which would more than double these reductions in inequality by expanding subsidies to low- and middle-income households.

The Effect of Growth on Inequality

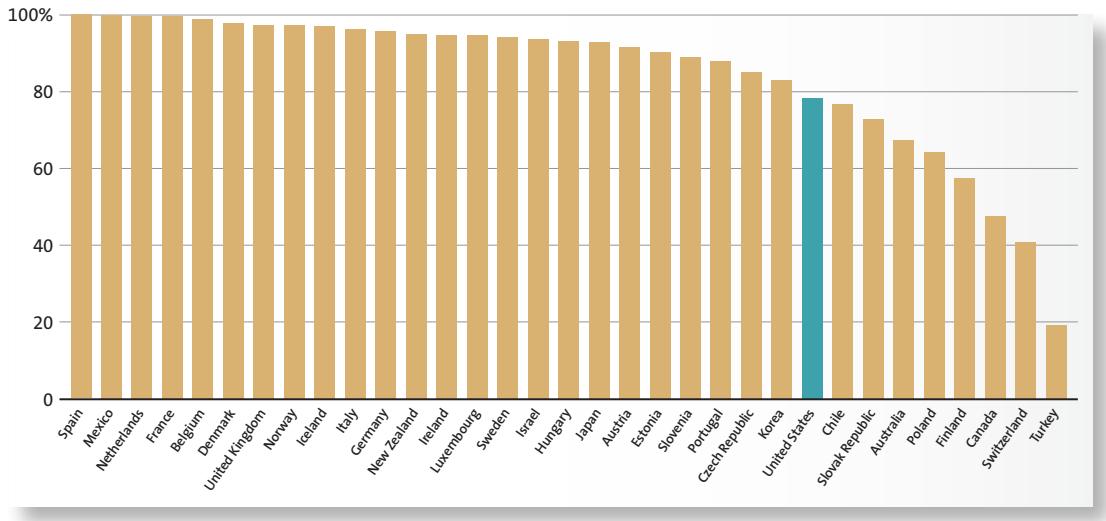
There has been much less attention to the forces that run in the opposite direction – that is, how growth affects inequality. There is empirical research on the impact of *level* of output on inequality. The "Kuznets curve," graphing GDP against measures of inequality, is an inverted U, with inequality high at low levels of income and low at higher levels of income, though there is little evidence that the relationship is causal.

Piketty's framework, for its part, has the potential implication that growth could reduce inequality, although he does not explicitly spell out this point. Specifically, raising g relative to r would reduce inequality. Intuitively, raising g increases the importance of wages relative to wealth. This implies that labor's share increases, reducing inequality.

LIBERATION FROM THE BIG TRADE-OFF

Modern economics has long been in the thrall of Okun's "big trade-off," the view that virtually any interference with free market incentives with the goal of reducing income inequality – policies ranging from higher taxes on high-income earners to minimum wage increases to subsidized medical care for the poor – would exact a price in economic efficiency and, ultimately, growth. The insight is

ENROLLMENT RATES AT AGE 4 IN EARLY CHILDHOOD AND PRIMARY EDUCATION



NOTE: Data for Canada as of 2010, all other countries as of 2011. **SOURCE:** OECD

certainly accurate in some cases. A big asterisk belongs here, though – or, I should say, *asterisks.*

Okun implicitly assumed that markets would otherwise work with perfect efficiency. More to the point, he assumed that in a less-than-perfectly-efficient market economy, policy interventions increase inefficiency rather than to reduce it. But we know for a fact that some interventions are a win-win, reducing both inequality and inefficiency.

A good example is early childhood education, which is widely acknowledged to yield among the highest returns of any area of investment, yet disproportionately benefits families at the low end of the income distribution. The fact that this low-hanging fruit is there for the picking implies some form of market failure. The two prime candidates:

• Some of the benefits of early education are external to recipients.

• Capital markets are less than perfectly efficient because poor people can't borrow the tuition for preschool against the prospect of a big increase in the kids' future earnings.

By the same token, investments in higher education through subsidies that accurately reflect the demand for specialized skills have the potential to increase the growth rate, even as they ensure that the benefits of growth are broadly shared.

Another example – one in which the United States is a model – are cash subsidies to the poor that are tied to work. The Earned Income Tax Credit provides a match of up to 45 cents for each $1 earned by lower-income workers. This creates an extra incentive to work and can be an efficiency (and GDP) enhancer.

Perhaps the more striking fact is that the IMF study suggests that, on balance, progressive programs, even if imperfect in many countries around the world, may have nonetheless been growth-enhancing. It is even possible that greater awareness of the efficiency implications of policy change has led to policy design in many OECD countries in which progressive policies lead to more growth, rather than less.

That said, it is still important to remember that the potential for a trade-off between efficiency and equity should not necessarily take a policy initiative off the table. Much depends on the terms of the trade-off – the relative size of the benefits and the costs. In the case of the minimum wage, for example, our reading of the evidence is that an increase would have little or no impact on employment, yet would provide a substantial income increase for 28 million workers. But even some who believe that the minimum wage has a small negative impact on employment would still support an increase because this impact is outweighed by the very large number of beneficiaries.

Integral to any effort to analyze the growth impact of policies aimed at raising the living standards of families left behind in the past four decades is the issue of how to pay for it. Indeed, part of ensuring that everyone shares in the benefits of growth is making certain that the process of enhancing medium- and long-term fiscal sustainability does not move the economy in the opposite direction.

One element of this is making sure that deficit reduction be done in a balanced manner that includes more revenue from high-income earners. In this spirit, the coverage expansions in the Affordable Care Act are partly paid for with taxes on the income of households at the top.

Moreover, the administration's proposals for additional revenue to sustain the budget are centered on limiting tax benefits for high-income households – specifically an across-the-board limitation on the value of tax benefits in areas like housing, health care and pensions to 28 cents on the dollar for high-income households, which is less than the up-to-39.6-cent value of the current deductions and exclusions. Note, too, that reducing tax-based subsidies (as opposed to raising mar-

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ginal tax rates) can be expected to reduce growth-inhibiting distortions in private markets. In other words: another win-win.

Tax policy can also play a role in dealing with wealth inequality. This is not just true for taxes at the top, like the estate tax; what Piketty seems to underappreciate is that it is also true of what we can do to encourage wealth accumulation by moderate-income families. In recent years, a number of countries, including Italy, New Zealand, Britain and the United States, have started to take advantage of the fact taught to us by behavioral economics that automatic enrollment in retirement savings plans and other sensible default options can increase retirement security and wealth creation.

One final thought. It is time – long past time – to reject the conventional wisdom that greater inequality is the inevitable consequence of allowing technological change and global economic integration to power growth. There is just no compelling reason to believe that well-designed policies to narrow this widening gap would meaningfully reduce the level or growth of output, and every reason to believe they could provide a meaningful boost to working families.

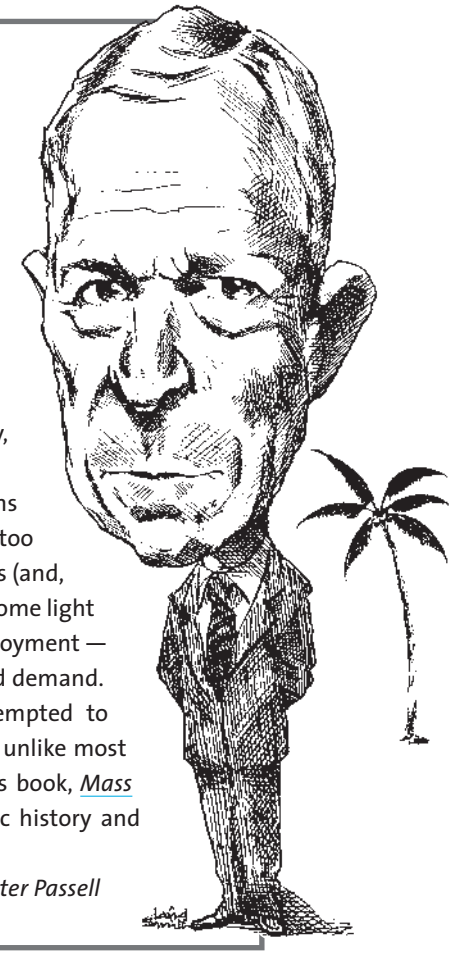
And the guy on the spine is...

Edmund (Ned) Phelps, the guy on the spine of the past four issues of the *Review*, who won a Nobel Prize in economics in 2006 for a giant — and rather depressing — insight. Before Phelps looked closely at the underlying theory, it was widely assumed there was a trade-off between inflation and unemployment: To buy a little less unemployment, you needed to pay with a little more inflation. But Phelps convincingly demonstrated that the trade-off wasn't stable. If unemployment were pushed below the "natural" rate determined by factors specific to each economy, inflation would eventually begin to accelerate.

This bad news, incidentally, was interpreted by anti-Keynesians as a nail in the coffin of interventionist fiscal policy. But that's way too strong a conclusion. The findings simply meant that fiscal stimulus (and, for that matter, monetary stimulus) has limits. And it shone a welcome light on the gritty problem of how to lower the natural rate of unemployment — how to make labor markets more efficient in matching supply and demand.

Like many other economics Nobelistas, Phelps has been tempted to pontificate about Big Ideas in the years following the award. But unlike most others, he's really worth listening to — or reading. Check out his book, *Mass Flourishing*, an exceptionally smart analysis of modern economic history and what's gone wrong with capitalism.

— Peter Passell



DAVID SMITH

What technology did the American public embrace more rapidly than the telephone, radio, television, personal computer or mobile phone? Genetically engineered foods. More than a quarter of American farmers snatched up seeds for genetically engineered soybeans, corn and cotton (the source of cottonseed oil) within three years of their commercialization. By contrast, it took more than 13 years after the cellphone was available for a quarter of Americans to own one, and 26 years after the widespread availability of TV for it to achieve that same feat. Last year, 90 percent of corn and cotton acreage was planted with a genetically engineered variety; at 94 percent, soybeans managed even greater market penetration.

In Defense of Frankenfoods

BY JAYSON LUSK

It is a bit of a misnomer, of course, to say that the American public embraced genetically engineered foods. Most people didn't know they were eating them. However, a flood of publicity (both hostile and celebratory) is waking up consumers to the fact that much of the food they buy contains ingredients that have been genetically altered.

The term "genetically engineered" is a more accurate descriptor than the more common monikers, "genetically modified organism" or "GMO."

STEVE BJORKMAN


NO!

That's because all living creatures' genes have been modified over time though the pressure of natural selection – and in the case of virtually all plant foods, by human intervention to increase and stabilize yields and to raise quality.

The story of genetically engineered foods would be just one of myriad gee-whiz tales of technological change in agriculture were it not for the controversy this technology has sparked. A variety of concerns about potential health and environmental effects gained traction in Europe when genetically engineered crops first came on the market in the mid-1990s. European regulators adopted a precautionary approach to those crops, failing to approve many of them in a timely fashion despite a paucity of scientific evidence pointing to health or environmental risks. And they mandated labels for foods made from GE crops, a deterrent to their use that is discussed in detail below.

Under threat of sanctions blessed by the World Trade Organization, the European Union has since approved many of the genetically engineered crops that are grown in the United States. But the initial reluctance led to more public skepticism and less adoption than is the case on the other side of the Atlantic.

But that is not the end of the story, at least in the United States. Their consciousness raised by sensationalized documentaries and organized protests against Monsanto (one of the largest producers of seeds for GE crops), many American consumers have become alarmed to learn that they were eating genetically engineered foods. The consequence: some states are considering mandatory labeling for such foods, and some local governments have even banned cultivation of GE crops within their borders.

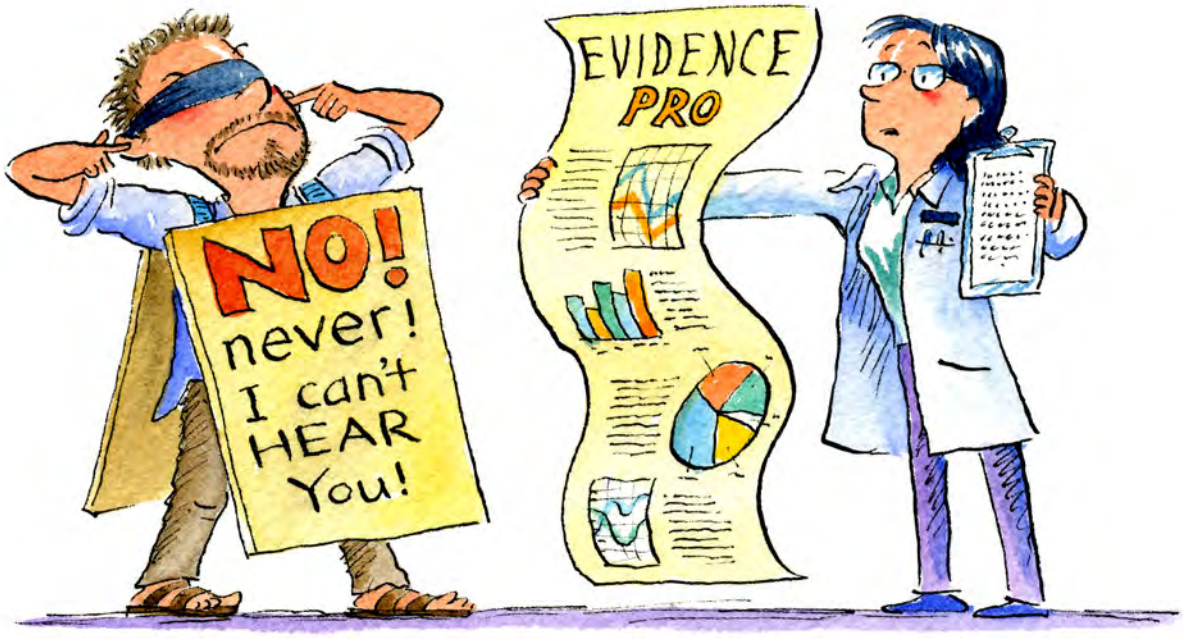
This is not any easy subject for consumers to master, and many have been swayed by sound bites. Indeed, scientists in favor of genetically engineered foods, as well as businesses with a commercial stake in such foods, have made little headway in advancing their case amid the swirling claims about the technology. That is more than merely unfortunate, because the stakes are so high. For GE crops hold out the best hope of sustaining the productivity growth in agriculture needed to feed the global population at reasonable cost without further polluting the planet. Here, I offer a short primer aimed at cutting through the confusion.

JUST THE FACTS

We would scarcely recognize the ancient ancestors of our modern agricultural commodities. Ten thousand years ago, the plant we know today as corn was about the size of your thumb. Rice and wheat were little more than wild grasses sprouting fragile, barely edible seeds. Only by eating the seeds and replanting the ones that merited the effort did our ancestors – first quite crudely, then more systematically – modify the plants' genes to produce the bountiful harvests we now enjoy.

There is a common view that we should only use those seed varieties and animal breeds that God (or the secular equivalent) gave us. Yet, nature is a moving target. And if one acknowledges man as a part of nature, it is difficult to categorize any of the developments in plant breeding as "unnatural." None of this is to say that new scientific developments shouldn't be subject to safety and environmental evaluations, as is now required of genetically engineered crops, only that the con-

JAYSON LUSK is Regents professor and Willard Sparks endowed chair in the department of agricultural economics at Oklahoma State University. He is author of *The Food Police: A Well-Fed Manifesto About the Politics of Your Plate*.



STEVE BJORKMAN

cept of naturalism has little bearing in the historical reality of food and agriculture.

It's easy to take for granted the amount of change that has occurred. Looking just at recent history – say, from the early 1900s to today – corn yields have increased by around 500 percent. Some of the bounty is a result of better farming practices and increased availability of inputs like nitrogen delivered with fertilizers. But much of it has resulted from improved genetics.

That 500 percent increase in yield means that today's farmers could grow the same amount of corn as their great-grandfathers did on one-fifth the acreage or quintuple the output on the same acreage. Indeed, American farmers are now producing much more food than they were in the middle of the 20th century despite the fact that there is less land in production. Not only is this growth vital to keeping the food supply in synch with world population, but it is also sparing millions of environmentally sensitive acres from cultivation.

Yield growth is increasingly dependent on genetic engineering. Use of the commercially available varieties of genetically engineered corn, soybeans and cotton does not increase yields per se (and, in fact, can sometimes reduce yields if the modifications are not introduced into hardy cultivars well suited for local conditions). Rather, these varieties protect against insects and weeds that can reduce yields. Thus, the yield gains in part reflect the ability of GE crops to mitigate downside risks. Risk reduction is valuable to farmers, as are the other benefits that existing genetically engineered crops provide, including labor savings, a reduced need to apply insecticides and the ability to use less-toxic and less-environmentally damaging herbicides.

While the advent of genetically engineered foods has no doubt benefited agribusiness giants, including Monsanto, DuPont and Bayer, the fact that genetically engineered seeds have penetrated the market so rapidly implies that farmers think the higher prices for the seeds are worth it. Though it is less obvious, consumers have benefited too, since more stable

yields lead to greater, less-volatile supplies and thus lower market prices for food.

The primary GE commodities now on the market in the United States have been engineered to survive applications of herbicides that kill weeds or to resist insects by giving plants the ability to produce chemicals that drive them away. Herbicide-resistant varieties of alfalfa, canola, corn, cotton, soybeans and sugar beets are in use. A variety of papaya that has been engineered to resist a virus that was devastating the industry in Hawaii is also in production. Many more plants with commercially useful traits are under development.

THE SCIENCE

Genetic engineering involves the transfer of a gene (or multiple genes) from one species to another through synthetic means. Just because the process occurs in a lab, it doesn't follow that the resulting seeds couldn't have been produced by "natural" means. Of course, some combinations – like the introduction of a fish gene into tomatoes, which was actually done – would never have occurred naturally, and some beneficial natural combinations might never have been noticed.

Resistance to certain herbicides, for example, can also be attained, albeit at a slower rate, via traditional plant breeding. Indeed, many strains of rice grown today are conventionally bred to be resistant to herbicides. Traditional plant breeding requires the breeder to find wild or unusual cultivars that display the trait of interest and repeatedly crossbreed them with a commercial variety until getting an offspring that is similar to the original commercial variety yet exhibits the desired trait. Genetic engineering, by contrast, attempts to speed up the process by moving only those genes of interest into the commercial variety.

Sometimes these genes come from wild variants of the same species (using so-called cisgenic technology) or from entirely different species (using transgenic technology). As the comparison of cisgenic and transgenic technologies suggest, the dividing line between what is and what is not genetically engineered is fuzzy and somewhat arbitrary: Transgenic is often considered genetic engineering, whereas cisgenic is not, despite the fact that both approaches use the same methods and differ only in the origin of the genes transferred.

Some of the unusual cultivars used in aforementioned conventional crossbreeds are created by mutagenesis – that is, exposing seeds to radiation or to chemicals in hopes of random, beneficial, mutations. This approach has been used for more than half a century and is not considered genetic engineering, nor is it regulated as such. In fact, certified organic seeds can arise from varieties produced via mutagenesis.

THE DEBATE

From consumers' perspective, the primary issue with genetically engineered food is its

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safety. And here, there is near unanimity among scientists that eating such food has no impact on health. The most respected scientific authorities on the subject – among them, the U.S. National Academies of Science, the American Medical Association and the American Association for the Advancement of Science – have concluded that currently approved genetically engineered foods are no riskier than foods bred through conventional means.

It's true that there are a couple of studies, widely publicized by activists who oppose genetically engineered food, like one by Gilles-Eric Séralini, the crusader against genetically engineered food, purporting to show that rats fed genetically engineered corn develop tumors. In this (now retracted) research, however, Séralini used a strain of rat known by researchers to develop tumors in advanced age even under normal conditions. Moreover, the study must be put in the context of a large body of scientific literature. There are literally hundreds of animal-feeding studies (not funded by the genetically engineered food industry) showing no adverse effects from eating genetically engineered foods. American consumers have been eating GE corn and soy for almost 20 years with no scientifically valid evidence of harm.

Critics of genetically engineered food point to rising autism and obesity rates, but these are purely illusionary correlations. Obesity rates were rising well before the advent of those GE foods, and rates of increase in obesity prevalence have slowed in recent years. This sort of naïve correlational thinking must also (absurdly) conclude that the rising number of farmers' markets has also contributed to obesity.

Ultimately, it must be recognized that genetically engineered foods are not a single "thing." To broadly claim that they cause harm lacks precision (not to mention evidence). One needs to tie a specific genetic alteration to a specific type of harm. It is possible to imagine genetic modifications that could trigger allergies (the purely hypothetical example of inserting a peanut gene into corn comes to mind). But most of the commercially used applications on the market today are not of this sort, and new GE crops that were couldn't pass regulatory muster.

Certain varieties of genetically engineered corn convey insect resistance by producing the bacterium *Bacillus thuringiensis*, which kills many sort of insects, but is far less toxic to humans than many insecticides approved for agricultural use. In fact, that bacterium is an approved and widely used pesticide in organic agriculture. The Food and Drug Administration requires that new genetically engineered crops meet standards of "substantial equivalence" – that is, they must be the same as the non-genetically engineered crop except for the trait of interest. And the new traits of interest are checked against a library of known allergens before approval is granted.

Whatever might be said about the advantages and disadvantages of the U.S. regulatory approval process for GE crops (which requires clearances from not only the FDA, but also the Agriculture Department and the Environmental Protection Agency), it is important to note that genetically engineered crops have been approved by many major governments all over the world, with different political and regulatory processes. The United States is the largest producer of GE crops in the world, but they are also extensively grown in Argentina, Brazil and Canada, and have been approved

and grown in smaller volume in Australia, Germany, Spain and the Czech Republic.

THE GREAT LABELING FIGHT

Despite the fact that genetically engineered corn and soybeans have been widely grown since the mid-1990s, momentum to require mandatory labeling of GE foods in the United States did not gain much traction until quite recently. Although a mandatory-labeling ballot initiative failed in Oregon in 2003, California's Proposition 37 reignited the issue in 2012. Early polling indicated that the measure would sail to victory, but a blitz of advertising by anti-Proposition 37 groups (mostly funded by large food and biotech companies), along with unfavorable editorials in major newspapers and opposition from scientific organizations, stemmed the tide. Proposition 37 failed, though narrowly, receiving almost 49 percent of the vote. The following year, there was a similar ballot initiative in Washington State, which failed in another squeaker.

Those narrow defeats have encouraged labeling advocates, who are backed financially by several large "natural" and organic food companies in addition to some consumer-advocacy groups. And they have had some success with state legislatures. Connecticut and Maine passed labeling laws in 2013 that will go into place if a threshold number of other states pass similar laws. This year, Vermont became the first state to pass a mandatory labeling law for genetically engineered food, and shortly thereafter two Oregon counties passed ballot measures *banning* the cultivation of genetically engineered crops within their borders.

It is uncertain whether Vermont's law will withstand challenges in federal court. Ten years ago, Vermont passed a similar, but narrower, law requiring labels on milk from cows that had been given a productivity-enhancing bioengineered hormone called bovine somatotrophin. The law was overturned in 1996, with a federal court concluding that the labeling requirement violated producers' First Amendment speech rights since the FDA had found that milk from cows treated with the hormone was not substantively different from milk from untreated cows.

Polls conducted in Vermont while the labeling law was in place are revealing. They showed only about half of consumers even noticed the change on the label, and of those who did notice, 79 percent interpreted the label incorrectly.

But legal and psychological uncertainties aside, mandatory labeling is increasingly looking like a winner in state legislatures. That explains why, in April, the food, farm and biotech lobbies have changed strategy, backing their own federal legislation – the Safe and Accurate Food Labeling Act (HR4432) – that would pre-empt state laws. The law, introduced by Kansas Republican Mike Pompeo, would reassert the authority of the FDA to determine both safety and the need for labeling. It would only require labeling if the FDA deemed there to be a "material difference" between the bioengineered and conventional food that entailed a health or safety risk. The bill posits that the use of bioengineering, in itself, does not constitute a material difference, and it would place proof requirements on food companies making claims that their products had no genetically engineered ingredients. It is unclear at this point whether the bill will get anywhere.

Labeling advocates often assert consumers' right to know what is in their food. It is a bit unclear how far these rights should extend – is there also a right to know, for instance, which seed variety was used or the location of the farms that produced the crops – or whether such rights should be balanced against the

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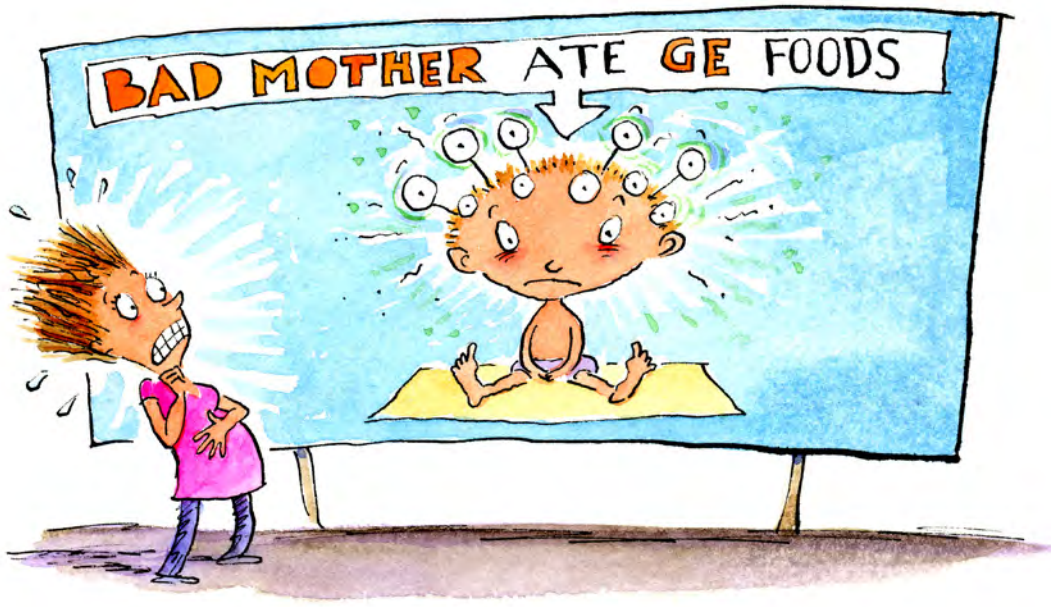
costs of providing the information? However, the right-to-know argument has proved compelling for many, and it certainly makes for appealing sound bites.

Labeling proponents also argue that labeling costs would be small (only the cost of ink), and point out that food companies routinely change packaging for other reasons. They are correct: The cost of adding a label would, indeed, be trivial for most consumers if – and this is a big if – food companies choose to respond to the requirement by continuing their ingredient sourcing as usual and simply slap a "may contain genetically engineered ingredients" label on their products.

But food companies have argued that they will be eager to avoid the label (fearing consumer backlash and losing market share to competitors who eschew genetically engineered ingredients) and will switch to more expensive non-genetically engineered ingredients. If labeling policies create this sort of dynamic, the costs for the average household could be substantial, and would be likely to disproportionately affect the poor, because they spend a higher share of their income on food.

At present, it is impossible to know whether the costs would be closer to the cost of ink or to the several-hundred-dollars-annually figure that has been tossed around by anti-label groups. Some who believe the latter point to the European example to predict what might be expected in the United States. European countries already mandate labeling, and food companies there have largely decided to avoid ingredients made from genetically engineered plants. As a result, it is difficult to find less-expensive genetically engineered foods in most European countries. (The law, by the way, does not apply to meat from animals fed genetically engineered crops, and the European Union imports large amounts of GE soybeans from the United States for animal feed).

This would suggest that mandatory labels would substantially drive up costs and limit choice on this side of the Atlantic. However, the situation is less analogous than it might initially appear because Europeans had a pre-existing labeling law, and farmers and food companies simply chose not to adopt GE crops. By contrast, in the United Sates, genetically engineered crops are the rule rather than the exception, and dropping them could entail substantially more disruption. Moreover, GE corn is likely to be grown regardless of the desires of food retailers, because more



than 40 percent of the U.S. corn crop is currently devoted to ethanol-fuel production.

The most substantive legal issue in the labeling debate relates to the question of when, and under what conditions, the government can compel food companies to "speak" (that is, to add certain labels and disclosures). A legitimate argument could be made that such labels could be justified for ingredients that demonstrably affect human health, as is the case for, say, sugar, salt and fat content – all of which must be posted on nutritional-fact panels on food packages. However, the best scientific evidence available suggests no such safety or health risks from currently approved GE crops, and more generally, that the use of genetic engineering is a technological process, not a food-safety outcome.

One related concern with mandatory labels is that their mere presence might imply a safety risk, when, in fact, the evidence suggests there is none. This perspective was well articulated by Cass Sunstein, a University of Chicago law professor and President Obama's former regulatory czar, who is certainly not a political conservative. In a *Bloomberg View* column last year he wrote:

> GM labels may well mislead and alarm consumers, especially (though not only) if the government requires them. Any such requirement would inevitably lead many consumers to suspect that public officials, including scientists, believe that something is wrong with GM foods – and perhaps that they pose a health risk. Government typically requires labeling because it has identified such a risk (as in the case of tobacco) or in order to enable people to avoid or minimize costs (as in the case of fuel-economy labels). A compulsory GM label would encourage consumers to think that GM foods should be avoided.

THE POLITICS OF GENETICALLY ENGINEERED FOODS

Given the contentious nature of policies governing GE food – and the growing plague of political partisanship – it isn't surprising that the debate has taken on ideological dimensions. Many of the early protests over genetically engineered food in the United States

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originated with environmental groups that have historically been aligned with the left. The fact that today's most popular GE crops were commercialized by large agribusiness and chemical companies has also tended to situate opposition to the technology among anti-corporate sentiments on the left.

While it is possible to be pro-biotechnology without being pro-Monsanto, such a nuanced position is difficult to maintain in the current atmosphere. It seems that many suffer from what might be called Monsanto Derangement Syndrome, buying into all sorts of conspiracy theories. Yet genetically engineered foods are no more synonymous with Monsanto than hamburgers are with McDonald's. When anti-Monsanto became de facto anti-biotechnology, many left-leaning commentators chose to swim with the tide. Thus emerged a (justifiable) belief that many on the left were anti-science on the issue of biotechnology. In the words of journalist Keith Kloor (writing for *Slate*), opponents of genetically engineered food "are the climate skeptics of the left."

Although there is some truth to this observation, the political reality is more complex. Indeed, it is possible to find strong sentiments against GE food expressed by some members of the far right. Often, this can be tied to populist attitudes, naturalistic-purity motives (sometimes religiously driven), or concerns about the viability of family farms in the age of genetic engineering.

An important distinction is the greater willingness of those on the left to regulate business than those on the right. Stated differently, there are questions of science: What are the risks of climate change or eating genetically engineered food? And then there are normative questions: Given that risk, what should be done about it? Even if the left and the right agreed on the level of risk, accord on the degree of government intervention shouldn't necessarily be expected. By analogy, thoughtful criticisms of climate-change policies on the right aren't criticism of the quality of the science, but rather skepticism about the ability of government to intervene fairly and effectively.

In surveys I led that were conducted in California leading up to the vote on Proposition 37, liberals were much more likely to be in favor of mandatory labeling laws than were conservatives. However, other research has shown mixed results on the question of whether liberals or conservatives are more likely to think that eating genetically engineered food is unsafe. In a tracking survey I've run for the past 15 months that has recorded more than 15,000 responses, consumers in the United States are asked to rate a series of issues in response to the question, "How concerned are you that the following pose a health hazard in the food that you eat in the next two weeks?"

One of the issues is "genetically engineered food." The results reveal a slight tendency for conservatives to be less concerned about GE food than liberals (liberal respondents report, at most, an 8 percent higher level of concern than conservative respondents, holding constant other socio-economic characteristics). However, closer investigation reveals liberals are more concerned about *all* the food issues included on the survey (among them, salmonella and mad cow disease); concern about GE foods relative to all other food issues was no different among liberals and conservatives.

One paradox of sorts that has arisen from the desire for stricter regulation of genetically engineered crops is that large agrichemical companies would be handed a ticket to increased market power. Many universities and non-profits lack the resources and know-how to navigate the regulations required to develop and commercialize GE crops. To the

dismay of many, universities have entered into partnerships with seed and agrichemical companies precisely because of the difficulties associated with regulatory and commercialization costs.

It is tempting to believe that stricter biotech regulations hurt corporate interests, but such regulations often make it hard for non-incumbents to break down barriers to getting their innovations to market. Established agribusinesses that have teams of lawyers and lobbyists are often in a better position to absorb the regulatory costs than smaller competitors. The goal shouldn't be to keep large agribusinesses out of the seed and biotech market, but rather to make sure that the barriers to entry are low enough that anybody can compete with them.

THE FUTURE

The dramatic swings in support for labeling of GE food that were seen during the ballot initiatives in California and Washington reveal that public opinion on the issue remains malleable. However, as the issue is increasingly discussed in the news, attitudes are likely to harden. Research shows that once people form opinions about a complicated issue, they often ignore evidence that conflicts with their beliefs. So the next few years could prove critical in charting the future of genetically engineered food.

One promising sign: The elite media has begun to express more nuanced (and positive) views about food biotechnology than was the case in the past. Even many critics have conceded that eating genetically engineered foods is safe and have shifted concerns to issues of market power, monoculture cropping and development of pesticide resistance, despite the fact that genetic modification is not intrinsically linked to any of these issues. No doubt, some of the shift reflects a desire to gain some distance from the label of anti-science that has been (rightly) pinned on the anti-vaccine and climate-change-denial movements. But, it is also recognition of the potential benefits that biotechnology can provide to society, as well as to agribusiness.

My view is that the biggest costs of policies restricting or mandating labeling of genetically engineered foods are not the likely impact on prices at the supermarket, but the possible creation of a climate hostile to agricultural innovation – a climate that retards technological change. Surveying the landscape of genetically engineered crops currently in development by university scientists, non-profits and biotech firms suggests just how much is at stake. A few examples:

• Staple crops grown in developing countries are being engineered to produce micronutrients missing in the diets of some of the world's poorest citizens. Golden rice and golden bananas, for example, are genetically engineered to produce beta-carotene, which can address vitamin A deficiencies that lead to hundreds of thousands of deaths and cases of blindness every year. Other examples include high-iron beans and nutritionally enhanced cassava and sweet potatoes.

• Insect resistance is being incorporated into staple crops in developing countries. For example, *Bacillus thuringiensis* cowpeas are being studied for use in western Africa. Built-in insect resistance would allow subsistence farmers who do not have access to traditional chemical pesticides to reduce volatility in yields.

• Nitrogen use can be reduced. For centuries, farmers have routinely applied nitrogen-rich fertilizers to increase crop production. Indeed, these fertilizers are critical to maintaining the sorts of crop yields we've come to depend on. But fertilizer runoffs compromise

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The biggest costs of policies restricting or mandating labeling of genetically engineered foods are the possible creation of a climate hostile to agricultural innovation, a climate that retards technological change.

the quality of groundwater and threaten the environmental stability of streams and lakes. Some legumes, like soybeans, are able to grab nitrogen from the air, and thus have no need for nitrogen fertilizer. And scientists are attempting to engineer other staple crops, including corn, to do the same. Other research is focused on genetic modifications that improve the nitrogen and phosphorous utilization of crops, reducing the amount that farmers need to apply.

• There are other potential environmental benefits from genetic modification. Crops are being engineered to be more drought-tolerant and to make better use of scarce water supplies. Methane production by cows, which contributes to climate change, might be cut by feeding specially engineered grasses to the animals. Speaking of grasses, homeowners will soon be able to buy herbicide-resistant seeds for their lawns.

• Some genetic modification is focused on making higher-quality products. The Flavr Savr tomato, which had a longer shelf life and thus could be allowed to ripen on the vine, was sold briefly in the mid-1990s before being withdrawn. Apple breeders are on the cusp of introducing the Arctic apple, which does not turn brown when it is cut up and exposed to air. High-oleic edible oils, which are low in saturated fat and have zero transfats, have been engineered to improve the shelf life and healthfulness of packaged foods.

Biotechnology is not the answer to all of the world's food problems. And proponents of genetically engineered food have, at times, been guilty of overpromising. But given the confluence of tightening water supplies, climate change, rising demand for meat in emerging-market countries like India and China, and a growing world population, genetic engineering will be necessary if we are to feed future generations at reasonable cost.

Why an African Growth Miracle Is Unlikely

BY DANI RODRIK

Africa's recent economic performance has been widely celebrated in the media. Sub-Saharan Africa's inflation-adjusted growth rate, after having spent much of the 1980s and 1990s in negative territory, has averaged nearly 3 percent annually in per capita terms since 2000. This wasn't as stellar as East Asia's and South Asia's performances, but was decidedly better than what Latin America, undergoing its own renaissance of sorts, was able to achieve. Moreover, the growth isn't simply the result of a revival in foreign investment: The region has been experiencing positive productivity growth for the first time since the early

1970s. It should not be entirely surprising, then, that the traditional pessimism about the continent's economic prospects has been replaced by rosy scenarios focusing on African entrepreneurship, expanding Chinese investment and a growing middle class.

But a reality check is in order here. As welcome as this economic upturn has been, the the decline prior to the last decade was so deep that many African countries still have not caught up with post-independence levels of per capita income. If the World Bank's figures are to be believed, the Central African Republic, the Democratic Republic of Congo, Ivory Coast, Liberia, Niger, Senegal, Zambia and Zimbabwe are all poorer now than they were in 1960. Furthermore, the slowing of emerging-market growth elsewhere in the world and China's troubles in rebalancing its own growth have led many to look more closely at the sustainability of the revival.

It's clear that Africa has benefited from a particularly favorable external environment during the last two decades. Global commodity prices have been high and interest rates low. Private capital flows have supplemented increased official assistance from foreign donors and multilateral lenders. China's rapid growth has fueled demand for the region's natural resources and has stimulated direct investment in African economies. The global financial crisis, meanwhile, had little direct impact, given African countries' weak financial links with the rest of the world and their limited dependence on formal capital markets.

Still, my prognosis for sub-Saharan Africa is on the pessimistic side, due to what I think are poor prospects for structural change and industrialization. Perhaps Africa will prove the skeptics wrong. But if so, my guess is that it will be because these countries have devised an alternative to the engine that propelled rapid growth in Asia.

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THE ECONOMICS OF CONVERGENCE

Neoclassical growth theory establishes a presumption that poor countries should grow faster than rich ones. After all, they have the ironic advantage of economic backwardness: low capital-labor ratios, which should raise the rate of return to investment, everything else being the same. Further, they have access to foreign capital to supplement domestic saving, so the latter should not act as a constraint on the pace of investment. Finally, they are part of the global trading economy, so they can expand output more rapidly than domestic demand in goods in which they have a comparative advantage.

That said, convergence has, in fact, been the exception rather than the rule since the great divergence spawned by the Industrial Revolution and the division of the world into a rich core and a poor margin. Except for the European periphery and East Asia, sustained rapid growth in the lagging regions has been rare.

Growth theory has accommodated this empirical reality by distinguishing between unconditional and conditional convergence. Growth in developing nations is held back by a variety of country-specific obstacles. Accordingly, developing nations' convergence to rich-country income levels is conditional on these disadvantages being overcome.

The factors that determine long-run income levels are growth theory's fundamentals. These include levels of investment, human capital and the impact of public policy on incentives for work, innovation, savings and the like. They might be all viewed as being ulti-

PREVIOUS PAGE: REUTERS/THOMAS MUKOYA

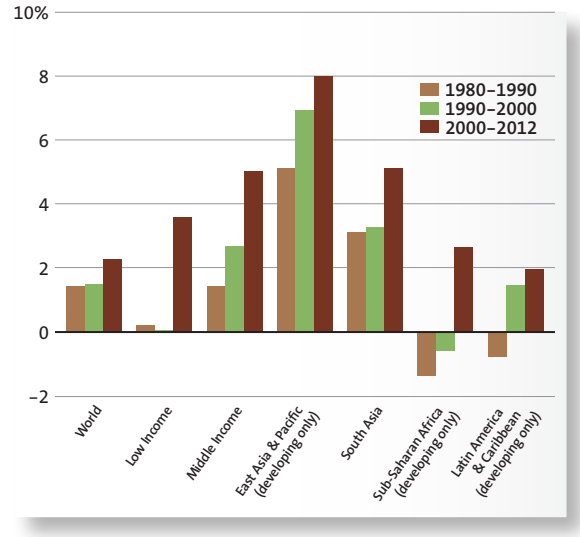
mately determined by a country's quality of institutions (as has been argued forcefully by MIT's Daron Acemoglu and Harvard's James Robinson in *Why Nations Fail*). Or they may be determined by geography and ecology (as has been argued by Columbia's Jeffrey Sachs). The quality of institutions themselves may be tied to initial levels of the human capital brought in by colonizers (as has been argued by Harvard's Edward Glaeser and Andrei Shleifer). For the purposes of the present discussion, I do not need to take a strong stand among these contending perspectives on the true growth fundamentals. As long as we leave room for human capital and institutions, I am happy to accept the argument that geography matters.

African countries cannot do much about their geography, but there is little doubt that their growth fundamentals on all other dimensions have improved significantly. Agricultural markets have been liberalized, domestic markets have been opened to international trade, state-owned or controlled enterprises have been disciplined by market forces or closed down, macroeconomic stability has been established and exchange-rate management is infinitely better than in the past. Political institutions have improved significantly as well, with democracy and electoral competition becoming the norm rather than the exception throughout the continent. Finally, some of the worst military conflicts have ended, reducing the number of civil war casualties in recent years to historic lows for the region.

That's all good news, but how much growth should we expect from these positive changes? Improvement in the policy and institutional environment can be expected to generate greater economic stability and prevent deep crises arising from mismanagement. But it is not clear that these changes alone will serve as the engine for a growth miracle. My work and that of NYU's William Easterly and others has shown that the relationship between standard measures of good policy (such as trade liberalization and low inflation) and economic growth is not particularly strong. A huge black-market premium for foreign currency and hyperinflation can drive an economy to ruin, but there is no significant, predictable difference in growth between an economy suffering inflation of 5 percent rather than 15 percent, or an average tariff rate of 10 percent rather than 25 percent. As economists, we have a pretty good idea of what can cause economic collapse, but not so much about what can produce a miracle. As a result, the upside potential of Africa's progress on policy remains uncertain.

GROWTH PERFORMANCE OF COUNTRY GROUPS SINCE 1980

AVERAGE ANNUAL PER CAPITA GDP GROWTH



SOURCE: World Bank World Development Indicators

What about institutions, which have received so much attention in the development literature? Isn't it the case that high quality institutions make a huge difference to long-run income levels, and hence convergence patterns? Some studies (in particular, those by

Bridge infrastructure, Ivory Coast into Liberia

EPA/AHMED JALLANZO

Acemoglu and Robinson and their colleagues) attribute the bulk of country variation in long-run income levels to differences in institutional quality. But even if they are correct, this long-run relationship tells us rather less about growth prospects over the next decade or two. Empirically, the correlation between institutions (or the change in the quality thereof) and growth rates – as opposed to income levels – is not strong.

Few would deny that Latin America's political and economic institutions improved significantly over the late 1980s and 1990s. Yet the growth payoff has been meager at best. Conversely, high-performing Asian economies such as South Korea (until the late 1990s) and China (presently) have been rife with institutional shortcomings, including cronyism and corruption, yet have done exceedingly well.

The empirical literature that finds the strongest results for institutions relies on concepts such as the rule of law or expropriation risk. An important problem here is that these are outcomes: They tell us something about investors' evaluation of the economic environment, but not so much about how to get there. It remains unclear which policy levers have to be pulled to get those outcomes.

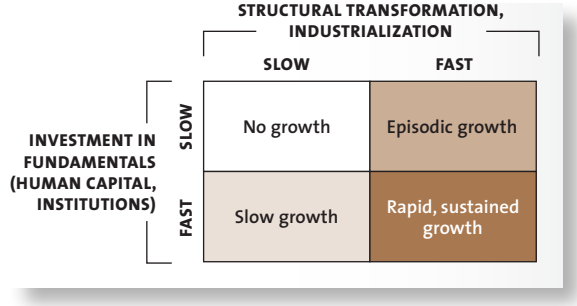
As I have argued elsewhere, the function that good institutions fulfill (about which we have a fairly good idea) does not lead to unique *forms* (about which we know a lot less). That depends on local context and opportunities, and figuring it out can be quite hard. Thus, one lesson for Africa is that we should not be overly confident about the growth payoffs when countries adopt the formal trappings of "good institutions."

A STRUCTURAL TRANSFORMATION PERSPECTIVE

So standard growth theory, with its focus on long-run fundamentals, does not do a very good job in describing growth miracles. A complementary perspective is provided by the tradition of dual-economy models – models in which sub-economies operating at very different levels of development coexist in one economy – which have long been a staple of development economics. The birth of modern growth economics pushed aside this tradition, but it is clear that the heterogeneity in productive structures, which dual-economy models capture, continues to have great relevance to low-income economies such as those in sub-Saharan Africa. Indeed, a hallmark of developing countries is the wide dispersion in productivity across economic activities – modern versus traditional, formal versus informal, traded versus non-traded, cash crops versus subsistence crops. And as recent research has shown, these divergences even exist within individual sectors.

What was explicit in those old dual-economy models was the difference in the dynamic properties of productivity across the modern-traditional divide. Traditional sectors were stagnant, while modern sectors exhibited returns to scale, generated technological spillovers and experienced rapid productivity growth. This picture has been refined over time, and we no longer think of traditional sectors – such as agriculture – as necessarily stagnant. But in one important respect, recent findings reinforce the relevance of the dual-economy perspective. Modern, manufacturing industries *are* different: They do exhibit unconditional convergence, unlike the rest of the economy. Moreover, the estimated convergence rate is quite rapid, with a half-life of 40 to 50 years.

A TYPOLOGY OF GROWTH PROCESSES/OUTCOMES



This is a rather remarkable result. It says that modern manufacturing industries converge to the global productivity frontier regardless of geographical disadvantages, lousy institutions or bad policies. Under better conditions, convergence is likely to be faster, of course. But what is striking is the presence of convergence in at least certain parts of the economy, even in the absence of good fundamentals. This result is fairly general, regardless of time period, region or level of aggregation. In particular, the dozen or so African countries that produce data adequate to track change follow the same pattern as the rest of the world.

So can Africa generate a growth miracle based on the performance of manufacturing? The answer depends on the rate at which African economies can move their labor into modern manufacturing (and related) industries. The dual-economy-augmented version

of growth theory produces the following typology of growth patterns.

As the diagram makes clear, long-term convergence requires both structural change and fundamentals. Rapid industrialization without the accumulation of fundamental capabilities (institutions, human capital) produces spurts of growth that eventually run out of steam. But in the absence of rapid structural change, investment in fundamentals on its own produces moderate growth at best.

THE AFRICAN CONTEXT

So where does Africa stand in structural change? Here, the picture is not bright. While farmers have moved out of rural areas and the share of agriculture in employment and value added has dropped significantly since the 1960s, the primary beneficiary has been urban services rather than manufactures. In fact, industrialization seems to have lost ground since the mid-1970s, and not much of a recovery appears to have taken place in recent decades. According to the best data we have at the moment, manufacturing's share of employment stands well below 8 percent, and its share of GDP is around 10 percent, down from almost 15 percent in 1975. Most countries in Africa are too poor to be experiencing deindustrialization, but that is precisely what seems to be taking place in too many places! Compared to Asian countries, African countries at all levels of income remain under-industrialized.

Moreover, few African countries are experiencing the classic growth-promoting structural change that East Asia underwent as part of the growth process. To take one recent example: In Vietnam, labor has moved rapidly from agriculture to more productive urban occupations. Manufacturing employment as a portion of total employment expanded by eight percentage points from 1990 to 2008. But so has employment in many services, which are also more productive. This pattern of structural change accounts for around half of Vietnam's impressive growth over the period.

The pattern in Africa, exemplified by Ethiopia and Kenya, is more mixed. In each, there has been outmigration from agriculture, but the consequences have been less salutary. In Ethiopia, where there has been some growth-promoting structural change, its magnitude is much smaller than in Vietnam. Manufacturing, in particular, has expanded much less. In Kenya, meanwhile, structural change has contributed little to growth. That's because the large number of workers leaving agriculture have mainly been absorbed by services, where productivity is apparently not much higher than in traditional agriculture.

The even worse news for African manufacturing is the degree to which it is dominated by small, informal (i.e., underground) firms that are not particularly productive. The share of formal employment in overall manufacturing employment appears to run as low as 6 percent in Ethiopia and Senegal. And there is little reason to believe that informal firms are on the same escalator as modern firms with access to technology, markets and finance. Indeed, the evidence suggests that few small, informal firms ever grow out of informality. So informality is a drag on overall productivity. And that plays a large part in explaining why not just services but also manufacturing in Africa have been falling behind the productivity frontier, even in recent years with brisk growth.

HIGH-GROWTH SCENARIOS

To generate sustained, rapid growth, Africa has essentially four options. The first is to revive manufacturing and put industrialization back on track, so as to replicate as much as

Freelance miners dig in an open-pit mine just outside the southern Democratic Republic of Congo copper town of Lubumbashi

REUTERS/DAVID LEWIS/FILES

The even worse news for African manufacturing is the degree to which it is dominated by small, informal (i.e., underground) firms that are not particularly productive.

possible the now-traditional route to economic convergence. The second is to generate agriculture-led growth, based on diversification into non-traditional agricultural products. The third is to kindle rapid growth in productivity in services, where most people will end up working in any case. The fourth is growth based on natural resources, in which many African countries are amply endowed. Let me offer a few words about each.

What are the prospects for a renewed industrialization drive in Africa? While the bulk

of Chinese investment has gone to natural resources, there have been some hopeful signs of greenfield investments in manufacturing as well in many countries of the region – notably, in Ethiopia, Ghana, Nigeria and Tanzania. Looking at some of these green shoots, one can perhaps convince oneself that Africa is well poised to take advantage of rising costs in Asia and turn itself into the world's next manufacturing hub. Yet, as we have seen, the aggregate data do not yet show something like this happening.

There is almost universal consensus on what holds manufacturing back in Africa. It is called "poor business climate," a term that is sufficiently broad to offer room for virtually anything under its rubric. The list includes the high costs of power and transportation, corruption, inefficient regulation, poor security, contract enforcement and uncertainty about government policy.

If the problem is that such costs act as a tax on tradable industries, there is a relatively easy remedy that could compensate for them: the currency-exchange rate. A real exchange rate depreciation of, say, 20 percent, is effectively a 20 percent subsidy on all tradable industries. It is a way of undoing the costs imposed by the business environment in a relatively quick and easy manner. At the right exchange rate, many African manufacturers could compete with Chinese and Vietnamese exporters, both externally and in the home market. An undervalued real exchange rate may thus may be the most effective tool available for spurring industrialization and hence growth.

Of course, achieving and sustaining a competitive undervalued exchange rate requires an appropriate monetary and fiscal policy framework. In particular, it requires managing or discouraging capital and aid inflows and a tighter fiscal policy than would otherwise exist. These steps may not be easy, but may well be considerably easier to implement than the endless policy reforms needed to fix the myriad problems associated with the poor business climate. And once the economy is on a higher growth path, it may become easier to deal with those business-climate problems, thereby reducing reliance on the exchange rate.

On the other hand, the obstacles to industrialization in Africa may be deeper, and go beyond specific African circumstances. For

various reasons we do not fully understand, industrialization has become really hard for all countries of the world. The advanced countries are, of course, deindustrializing, which is not a big surprise and can be ascribed to both import competition and a shift in demand to services. But middle-income countries in Latin America are doing the same. And industrialization in low-income countries is running out of steam considerably earlier than was the case before. This is the phenomenon that I have called premature deindustrialization.

The first wave of industrializers, notably Britain and Germany, put more than 30 percent of their labor force in manufacturing before they began to deindustrialize. Among Asian exporters, the most successful, such as Korea, reached a peak well below 30 percent. Today, countries such as India, along with many Latin American countries, are deindustrializing from peaks that do not exceed the mid-teens. Even Vietnam, which is one of the most successful recent industrializers, shows signs of having peaked at 14 percent of employment. Yet Vietnam is still a poor country, and in an earlier period would have had many more years of advancing industrialization.

The reasons for this common pattern of premature deindustrialization are probably a combination of global demand shifts, global competition and technological change. Whatever the reason, Africa finds itself in an environment where it is facing much stronger headwinds. Countries with a head start in manufacturing, having developed a large manufacturing base behind protective walls as occurred in both Europe and Asia, make it difficult for Africa to carve a space for itself – especially as global demand shifts from manufacturing to services. Having liberalized trade, African countries have to compete today with Asian and other exporters not only on world markets but also in their domestic markets. Earlier industrializers were the product of not just export booms, but also a considerable amount of substitution of domestically made goods for imports. Africa is likely to find both processes very difficult, even under the best of circumstances.

Since so much of Africa's workforce is still in agriculture, does it not make sense to prioritize development of this sector?

What about the second scenario, agriculture-based growth? Since so much of Africa's workforce is still in agriculture, does it not make sense to prioritize development of this sector? Without question there are many unexploited opportunities in African agriculture, whether in perishable, non-traditional products such as fruits and vegetables or perishable cash crops such as coffee.

Yet, agricultural diversification seems to be hindered by many of the same obstacles as manufacturing – the term "poor business climate" applies equally well here. In addition, agriculture has special problems that governments need to fix, including poorly defined and enforced land rights, weak standard-setting, and uncertain input provision. That's not to say the obstacles are insurmountable. Once again, the exchange rate could prove an important compensatory tool. The main argument against this scenario is that it is very difficult to find examples of countries that have pulled off such a strategy. Agriculture-led growth implies that countries would sell their surplus on world markets, and that their export baskets would remain heavily biased toward farm products. Yet one of the strongest

Even if modern agriculture succeeds on a large scale in Africa, it is unlikely this will reverse the process of migration from the countryside. More capital and technology-intensive farming may even accelerate this process.

correlates of economic development is export diversification away from agriculture. It is true that Asian countries, including China and Vietnam, have benefited greatly from early spurts in agricultural productivity – something that is particularly helpful for poverty reduction. But in all cases, the subsequent and more durable boost came from the development of urban manufacturing.

Moreover, even if modern, non-traditional agriculture succeeds on a large scale in Africa, it would be unlikely to reverse the process of migration from the countryside. More capital and technology-intensive farming may even accelerate this process. So in one way or another, sub-Saharan African countries will need to develop an array of high-productivity sectors outside agriculture.

The third scenario for growth, gains in service-sector productivity, is one that perhaps raises the largest number of questions. When I lay out my pessimism on industrialization to audiences familiar with Africa, I invariably hear back a litany of success stories in services – mobile telephony and mobile banking are the most common – that seemingly lead to a more optimistic prognosis.

With few exceptions, though, services have not acted as an escalator sector like manufacturing. The essential problem is that the services that play this role tend to require relatively high skills. The classic case is information technology, which is a modern, tradable service. Long years of education and institution-building are required before farm workers can be transformed into software programmers, or even call-center operators. Contrast this with manufacturing, where little more than manual dexterity is required to turn a farmer into a production worker in garments or shoes, raising his or her productivity by a factor of two or three.

So raising productivity in services has typically required steady, broad-based accumulation of capabilities in human capital, institutions and governance. Unlike the case of manufacturing, technologies in most services seem less tradable and more context-specific (again with some exceptions such as cellphones). And achieving significant productivity gains seems to depend on complementarities across different policy domains. For example, gains in a narrow segment of retailing can be accomplished relatively easily by letting foreign firms such as Walmart or Carrefour come in. But achieving productivity gains across the entire retail sector is extremely difficult in view of the heterogeneity of organizational forms and the range of prerequisites across product lines.

None of this is to say that the past must necessarily look like the future. Perhaps Africa will be the breeding ground for new technologies that revolutionize services for broad masses, and do so in a way that creates high-wage jobs for all. But that is hardly a sure thing.

Finally, there's natural-resource-based growth. Once again, the primary argument against this scenario is the paucity of relevant examples in history. Almost all of the countries that have grown rapidly over a period of three decades or more have done so by indus-

A bus driver navigates the congested streets of Freetown, Sierra Leone

THOMAS IMO/PHOTOTHEK VIA GETTY IMAGES

trializing. In the post-World War II period, there were two such waves – one on the European periphery (Spain, Portugal and Italy), the other in Asia (Korea, Taiwan and China). Very few countries have enjoyed rapid, sustained growth based on natural resources, and those that did were typically very small countries in unusual circumstances. Three of these countries were in sub-Saharan Africa: Botswana, Cape Verde and Equatorial Guinea. These cases demonstrate that it is, indeed, possible to grow rapidly if you are exceptionally rich in hard-rock minerals or fuels. But it would be a stretch of the imagination to think that these countries set a relevant example for countries such as Nigeria and Zambia, let alone Ethiopia and Kenya.

Moreover, the downsides of natural-resource-based growth are well known. Resource sectors tend to be highly capital-intensive and absorb little labor, creating enclaves within economies. Resource booms tend to crowd out other tradable goods, preventing industries with escalator properties from getting off the ground. Then, too, resource-rich economies experience substantial volatility in their international terms of trade as global commodity prices bounce around. And they have great difficulty in managing and sharing the windfall gains – the sometimes very large differences between extraction costs and world prices. Note, moreover, that institutional underdevelopment is often the price paid for resource riches. All these factors help

Institutional underdevelopment is often the price paid for resource riches.

account for why resource-based growth has not paid off for most countries.

IS A GROWTH MIRACLE POSSIBLE?

The balance of the evidence I've reviewed here suggests caution on the prospects for high growth in Africa. Much of the recent performance seems to be due to temporary boosts: an advantageous external context and making up of lost ground after a long period of economic decline. While the region's fundamentals have improved, the payoffs to macroeconomic stability and improved governance are mainly to foster resilience and to lay the groundwork for growth, rather than to ignite and sustain it. The traditional engines behind rapid growth and convergence – structural change and industrialization – are operating at less than full power.

So my baseline expectation would be moderate, steady growth, perhaps as high as 2 percent per capita annually, as long as the external environment does not deteriorate significantly and China manages its own substantial macroeconomic challenges well. I hasten to point out that a growth rate of 2 percent on a sustained basis is not bad. In all likelihood, this would narrow the gap with the more-advanced economies, because the latter will not do very well in the decades ahead.

I can make one other prediction, one that I feel even more confident about. If African countries do achieve growth rates substantially higher than I have suggested is likely, they will do so by pursuing a growth model that is different from earlier miracles, which were based on industrialization. Perhaps it will be agriculture-led growth. Perhaps it will be services. But it will look quite different than scenarios we have seen before.

The Social Safety Net in the Great Recession

Success, failure, or a little of each?

BY ROBERT A. MOFFITT

The Great Recession, which began in 2007, fully earned that descriptive adjective. It was the deepest downturn in postwar U.S. history, with GDP declining by over 3 percent from 2007 to 2009, followed by an excruciatingly long recovery. The unemployment rate rocketed from 4.4 percent in March 2007 to 10 percent in October 2009 and has dawdled downward ever since.

Indeed, the rate remained above 8 percent through the first half of 2012. Particularly disturbing was the increase in long-term unemployment – joblessness of more than six months – which rose from 20 percent of the unemployed in 2007 to 41 percent in 2012, and had barely inched below 35 percent by July 2014.

No surprise, then, that the role of the social safety net in protecting hard-hit families has been in the public eye. Most notably, both food stamps (now called the Supplemental Nutrition Assistance Program, or SNAP) and unemployment insurance, to name just two leading sources of assistance, expanded dramatically. Food stamp spending more than doubled between 2007 and 2009, as the number of people receiving benefits grew from 30 million to 50 million. Meanwhile, outlays for unemployment insurance quadrupled between 2007 and 2009, reaching $128 billion annually. (Although unemployment insurance is not a means-tested antipoverty program per se, many low-income households benefit from it.)

But raw numbers don't tell us all we need to know in order to judge the adequacy of the safety net or the merits of the programs that comprise it. How much of the increase in spending was automatic – that is, a straightforward consequence of layoffs and falling incomes – and how much was due to the expansion of government programs? Which groups among those affected by the recession benefited the most, and which the least? How much went to the poorest of the poor rather than families still managing to scrape by? How much did these programs discourage work, thereby reducing the effective size of the workforce?

We now more or less know the answers. But before plunging in, it's worth a look to see where the safety net stood just before the Great Recession began.

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BEFORE THE FALL

The U.S. safety net is composed of dozens, if not hundreds, of programs, but just a handful of them drive total government spending and caseloads. The two classic welfare programs are Medicaid and food stamps, both of which require recipients to have very low incomes and meager assets to qualify. Of the two, Medicaid is the elephant, with 2007 spending of $328 billion. Food stamp outlays totaled a "mere" $41 billion. (Two other sizable programs, it should be noted, subsidize school breakfasts and lunches for children from poor families.)

The traditional source of "welfare," which used to be large but, by 2007, had shrunk to a shadow of its former self, is called Temporary Assistance to Needy Families. You may re-

PREVIOUS PAGE: REUTERS/LUCAS JACKSON

REUTERS/SHANNON STAPLETON

member its predecessor, Aid to Families with Dependent Children, which died with the Clinton-led reform in 1996. Temporary Assistance to Needy Families spending totaled only $11.6 billion in 2007.

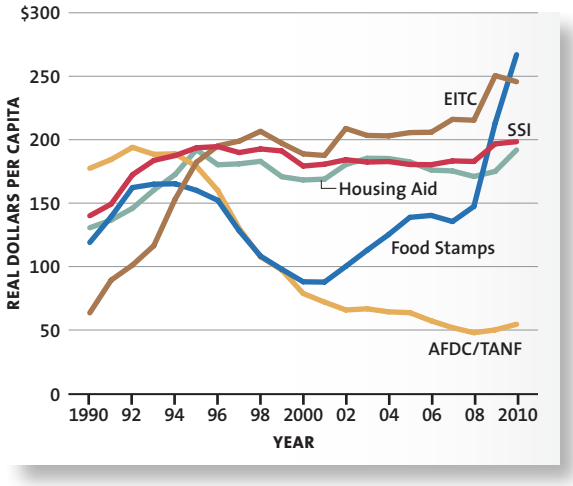
Washington also underwrites housing assistance to low-income families. Plain-vanilla public housing is being phased out; many units have actually been demolished. But the government does subsidize rents for families who find apartments in the private housing market, spending in total a shade less than $40 billion in 2007 – most of it on what is informally known as the Section 8 voucher program.

The last of the major welfare spending programs is Supplemental Security Income (SSI), which provided $41 billion in cash in 2007 to the elderly and disabled who were ineligible for (or inadequately supported by) Social Security. Well, not quite the last. Although not usually viewed as welfare, the Earned Income Tax Credit provides refundable tax credits – that is, cash payments in excess of other taxes owed – for working families with children. The maximum credit (as much as $4,000 annually) goes to families with earnings between $10,000 and $20,000. The Earned Income Tax Credit grew from modest origins in the 1970s to a major program today, mostly as the result of expansions of benefits and eligibility enacted under presidents George H.W. Bush and Bill Clinton. Total spending in 2007 topped $48 billion, making it the fourth-largest program benefiting low-income families.

Finally, there are so-called social insurance programs that provide assistance to individuals and families who have worked in the past and, directly or indirectly, paid premiums to the insurance funds. Unemployment insurance fits this category – as does Social Security Disability Insurance, which provides cash to those who have substantial work histories when they become disabled. Of course, the largest of the social insurance programs comprise the Social Security retirement program

and Medicare, which provide a substantial portion of the income of the aging. Although none of these is targeted at low-income families per se, millions of poor families do, in fact, receive assistance from them. Moreover, the formulas that determine the amount of benefits effectively redistribute substantial sums from the general population to the poor.

SOCIAL INSURANCE AND ANTI-POVERTY SPENDING BY PROGRAM, 1990–2010



SOURCE: The author

THE HAMMER FALLS

When unemployment rises, many safety-net programs kick in automatically. Thus as individuals lose their jobs, those who've worked long enough to qualify receive unemployment insurance benefits. And as household incomes fall, they become eligible for food stamps and Medicaid. Workers with dependent children who had been making $30,000-plus before being laid off and are able to find part-time work or lower-paying full-time work earning between $10,000 and $20,000 automatically receive Earned Income Tax Credit benefits as cash or as credits that reduce or wipe out paycheck deductions for Social Security and Medicare taxes. These and other automatic expenditures serve a dual purpose, keeping financially stressed households above water and helping to stabilize the aggregate economy by injecting purchasing power.

But several important programs do not kick in automatically. Job loss does not directly create disability, so neither Supplemental Security Income nor Social Security Disability Income outlays would necessarily rise. Moreover, an important feature of two safety-net programs – housing assistance and Temporary Assistance to Needy Families – limit the degree to which they can be expected to buffer falling incomes. They are *not* entitlement programs.

That is, families are not guaranteed help from them even if they fall below the income thresholds for eligibility. That's because enrollment is limited by the funds available. Indeed, there are long waiting lists for housing vouchers, and Temporary Assistance to Needy Families expenditures are limited by the size of the block grants Congress allocates to the states.

That said, Congress did raise spending on most assistance programs during the worst of the recession. In a series of bills in 2008 and 2009, it added weeks of eligibility to unemployment insurance, ending up with a maximum of 99 weeks at the peak, compared to the 26 weeks normally available in good economic times. Moreover, between March 2009 and June 2010, Congress bumped up weekly unemployment benefits. Food stamp benefits were also temporarily raised, and additional funds provided for Temporary Assistance to Needy Families block grants to the states. The Earned Income Tax Credit, for its part, was increased for families with three or more children. One-time payments to Social Security

SCOTT OLSON/GETTY IMAGES

retirees were added, too. Some additional housing assistance funds were provided.

A SCORECARD

Spending on the 15 largest welfare, tax credit and social insurance programs rose from $1.7 trillion in 2007 to $2 trillion in 2009, a 17 percent increase. Excluding social insurance programs – that is, focusing only on programs targeted specifically to low-income families – spending over the same period rose from $608 billion to $681 billion, a 12 percent increase.

But were these increases different in scale than in past recessions? The closest thing to the Great Recession that the economy has experienced since World War II was the massive 1979–1982 recession, when Federal Reserve Chairman Paul Volker initiated a contractionary monetary policy to reduce the high inflation rates of the late 1970s. Unemployment rose from 5.8 percent in 1979 to 9.7 percent in 1982, only a slightly smaller increase than the one experienced from 2007 to 2009. Yet spending on unemployment insurance grew by only half as much as during the Great Recession.

The growth in outlays for means-tested welfare programs was also much smaller under the Reagan administration. That's in large part due to the fact that the Earned Income Tax Credit had not been expanded and the food stamp program was still relatively small (though Aid to Families with Depen-

Bureaucratic and marketing changes led to an increase in the food stamp program caseload and set the stage for rapid spending expansion when the Great Recession hit.

dent Children was much larger than today's Temporary Assistance to Needy Families program). All told, means-tested spending grew by only 6 percent in the early-1980s recession, compared to the aforementioned 12 percent jump during the Great Recession.

Why the bigger bang this last time around? No thanks to Temporary Assistance to Needy Families, which exhibited virtually no response to the latest downturn. In fact, a more detailed look shows that spending and caseloads actually fell in some states. Spending on Temporary Assistance to Needy Families block grants has been fixed in nominal dollars since 1996, and the special supplements provided by Congress during the Great Recession were quite modest. In my view, the fact that there is no provision in the law to allow the TANF block grants to increase in a recession of the magnitude the country faced after 2007 signifies a major failure in public policy.

By contrast, the food stamp program (which is backed by farm lobbies as well as liberals) grew robustly. While some of the expansion was simply the consequence of rising eligibility as household incomes fell, the growth stemmed from more than that. In the 2000s, the Department of Agriculture, realizing that only about two-thirds of families formally eligible for food stamps were actually drawing benefits, encouraged state efforts to increase participation. Most states reduced the paperwork needed to prove eligibility, increased the length of time in which recipients would not have to resubmit evidence of eligibility, reduced the stringency of maximum-asset tests and conducted media campaigns to recruit eligible households. These changes led to an increase in the food stamp program caseload and set the stage for rapid spending expansion when the Great Recession hit.

WHO BENEFITED?

The aggregate sum spent on safety-net programs says a lot about their countercyclical macro impact, but not nearly as much about the degree to which they buffered the effect of the recession on individual households. Consider the Earned Income Tax Credit, which provides support mainly to those with annual earnings in the $10,000 to $20,000 range. An individual who has been laid off from his job and earns nothing or very little is not touched by the credit. It did help those who were earning above $20,000 prior to the recession and were pushed back into the $10,000 to $20,000 range. But these were not the poorest of the poor. Further, childless households benefit only marginally from the EITC because the credits go almost exclusively to those with dependents.

Temporary Assistance to Needy Families is another case in point. It is the only remaining program that provides cash assistance to families with children, primarily single mothers, where the adults have no earnings. (TANF has work requirements, but still allows payments to those searching for jobs.) Yet outlays from it were almost completely unresponsive to the recession because Congress chose not

to provide the funds. Note, too, that unemployment insurance provides assistance only to those with solid earnings histories over the previous year. Very low-income families with adults with spotty work histories – which is typical of low-skilled, last-hired, first-fired workers – are not eligible for unemployment insurance.

Outlays from TANF were almost completely unresponsive to the recession because Congress chose not to provide the funds.

Nonetheless, the extra social safety-net spending was apparently spread widely. Data are available on spending for different groups from 2004 (rather than 2007) to 2010. But the earlier date serves as a reasonable proxy since unemployment was quite low. Families with the smallest amounts of earned income – those earning less than half of the poverty line – on average received 23 percent more government assistance in 2010 than in 2004. Families with higher levels of earned income who were still poor had increases of 17 percent. Families with income just above the government poverty line had increases of 24 percent.

There were some differences by family structure, however. Low-income childless households received about the same increase in assistance whether they were very poor or had slightly higher private incomes (a 50–54 percent increase), as did married-couple families with children. However, the very poorest single-mother households received a 25 percent increase in aid from 2004 to 2010, compared to 54 percent for those with slightly higher incomes. The major reason for the difference is, once again, the failure of TANF to respond to the recession. But those families did get significant additional support, mainly in the form of food stamps.

THE DOWNSIDE

The large increases in total safety-net spending and the broad base of those helped should be viewed as an accomplishment befitting an affluent civil society. But the programs that made the difference – food subsidies, Medicaid, social insurance and (in some cases) tax credits – share the flaw of discouraging work because the gradual withdrawal of benefits as earned income rises acts much like an income tax. And, one might presume, the expansion of these programs to serve a broader swath of households presumably eroded work incentives further.

Happily, the impact of the disincentive is apparently modest. While the evidence unquestionably shows that work disincentives exist, they don't merit the dark diagnosis offered by conservatives. Among the three programs most responsible for the safety-net expansion in the Great Recession – unemployment insurance, food stamps and the EITC – the one with the strongest evidence of work disincentives is unemployment insurance. Increases in the amount of benefits typically increase the length of time an individual spends unemployed, as do increases in the length of the entitlement period. But estimates for the impact of the latter – the source of most of the higher impact of unemployment insurance during this last recession – are relatively small, with most estimates showing that adding an extra week of unemployment insurance benefits lengthens the time spent unemployed by about half a day.

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Evidence for food stamps also suggests small effects: Studies typically show that the program reduces work by about an hour a week. This certainly meshes with common sense, since the average benefit is only about $5 per day per person, and can only be used to buy food.

The Earned Income Tax Credit is a different sort of animal, since it serves as a work disincentive for some and an incentive for others. Critically, it is a strong incentive to work for those earning $10,000 to $20,000 per year, with especially positive effects on employment for working single mothers.

Indeed, the passage and expansion of the Earned Income Tax Credit is strongly linked to a greater awareness among policymakers that traditional welfare benefits – more specifically, the formulas for their withdrawal – had a punishing impact on work incentives and served to trap some households in a cycle of poverty. Effective tax rates of 100 percent used to be common in welfare programs and, in some cases, effective rates remain confiscatory – for example, for those with higher earnings who are facing the phase-out of benefits from

REUTERS/JASON REED

There's good reason to believe that future recessions will be no easier to manage because unemployment will linger long after GDP recovers.

several programs at the same time. But the EITC has changed that for many households with some earned income. With EITC subsidy rates up to 40 percent for those in the "sweet spot" of the earned-income ladder, the net tax rates for poor working families are typically very low. For example, at 30 percent, the effective tax rate on food stamp benefits is in the same range as the Earned Income Tax Credit subsidy rate, so the net tax rate on earnings for a working family receiving both benefits is about zero.

One important caveat: Most of the evidence on safety-net incentives is based on studies of the programs during normal economic times, not during major recessions. But while work disincentives could prove larger during recessions, they could be smaller as well. On the one hand, if jobs are very hard to find and require a great deal of effort to acquire, individuals receiving food stamps or unemployment insurance arguably may decide not to look for work in spite of the carrot of the tax credit. On the other hand, the lack of job opportunities means that even a great deal of extra looking may not result in much of an increase in work.

This implies that the effect of, say, an increase in the generosity of a welfare program may have smaller effects on employment dur-

ing a recession than in normal times. Indeed, the only program for which incentive effects have been carefully studied during recessions is unemployment insurance. And here, the evidence suggests that the impact on labor supply is smaller, not larger, in hard times. Further, those who seem to stay unemployed longer because of the extensions of unemployment insurance benefits are mainly the long-term unemployed. And for a large fraction of these individuals, extensions merely postpone the day they drop out of the labor force altogether. Benefit eligibility thus isn't likely to have much impact on the decision to work because the long-term unemployed simply don't have much chance of finding jobs in the first place.

LOOKING AHEAD

Most of the safety-net expansions from the Great Recession have been phased out, and Congress apparently is in no mood to be generous. The unemployment rate has fallen to a more palatable level (6.2 percent as this is being written), though the numbers are a bit misleading because many among the long-term unemployed have stopped looking and are thus no longer counted as part of the labor force. Going forward, public scrutiny is likely to focus on just two safety-net programs: food stamps and the EITC.

The caseloads and expenditures in the former have declined much more slowly than one would expect from a recovery at this stage. That's probably because reforms of the 2000s, along with measures during the recession that broadened eligibility, remain in place. And once households accept subsidies, they are often disinclined to stop doing so voluntarily. There is thus a legitimate concern that large numbers of recipients may stay on food stamps for extended periods.

As for the Earned Income Tax Credit, it is more popular than ever, pleasing policy wonks drawn to its positive work incentives and finding a place in the hearts of conservatives because only those who work are eligible. There may even be broad support for increasing benefits going to childless households, who currently receive very little from the credit. There is also some recognition that the program's formula discriminates unfairly against single-child families in favor of those with large broods.

Optimists can make a case that the safety net works – that tens of millions of Americans who suffered during the recession were buffered against the worst of it. Moreover, they can argue that the growing role of the EITC in both good times and bad reflects progress in finding a middle ground between allowing markets to decide who is poor and undermining private incentives to escape poverty.

But there is also a case to be made that this glass is half empty. Washington has no plans for helping those permanently injured by this recession, the millions of long-term unemployed who are not likely to work again either because their skills are marginal or their résumés have been tainted by years of joblessness. There's good reason to believe, moreover, that future recessions will be no easier to manage because unemployment will linger long after GDP recovers. More generally, as the recession recedes, we will be left to deal with the chronic problems of high school dropouts and others with very low skills who are becoming road kill in the winner-take-all economy. And we will have to face the reality that many poor families must deal with barriers to work, including inadequate child care, poor health and, in most places, wretched mass transit.

Truth is, managing a safety net that minimizes costs and encourages work without allowing millions to slip through has never been easy. And it is not getting any easier.

Austerity in the Tropics

Is Puerto Rico the New Greece?

BY ROBERT LOONEY

The mention of Puerto Rico once conjured visions of a tropical tax paradise, complete with pristine beaches and overproof rum. While the beaches and rum remain, the island's increasing resemblance to debt-ridden Detroit, fiscally irresponsible Argentina, and austerity-bludgeoned Greece is enough to make all but the most adventurous think twice about investing there today.


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AUSTERITY IN THE TROPICS

In four decades, Puerto Rico has gone from a model of development to a minefield for unwary bond buyers. Currently saddled with over $72 billion in debt, nearly four times the amount accumulated by Detroit, Puerto Rico's annual debt service is close to $4.5 billion. The island's population has shrunk to 3.7 million. Thus, interest alone on the public debt exceeds $1,200 per person, a serious burden for a place with barely one-third the median household income of the United States as a whole.

Puerto Rico's public debt equals over 70 percent of its GNP. By way of comparison, profligate Argentina's government debt is under 50 percent of GNP.

There are other ways to view this financial liability, but none of them makes for a pretty picture. Puerto Rico's public debt equals over 70 percent of its GNP. By way of comparison, profligate Argentina's government debt is under 50 percent of GNP.

Not surprisingly, then, Puerto Rico's bond debt was downgraded to junk status by all three major ratings agencies in February and downgraded further in July. Analysts are now debating the possible consequences for Wall Street, for tens of thousands of bondholders and, of course, for Puerto Ricans. One thing on which all agree: Puerto Rico's rocky footing is likely to get rockier.

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PREVIOUS PAGE: REUTERS/ANA MARTINEZ

IF IT WALKS AND TALKS LIKE GREECE…

Until quite recently, Puerto Rico's unique hybrid status as a U.S. territory provided more than adequate inducements to lure bond buyers. The island's securities are triple tax-exempt, so holders do not pay federal, state or local taxes on their interest income. Government default is also prohibited – at least in theory. These attractions, com-

REUTERS/ALVIN BAEZ

bined with high ratings (before the fall) and a plentiful supply of securities, have prompted three-quarters of U.S. municipal bond funds to shovel in cash.

Puerto Rico's unique status also contributed to its indebtedness. The high demand for its tax-free municipal bonds has historically kept the cost of borrowing low, lulling the government into reliance on long-term debt to cover short-term spending. Its need to borrow, moreover, is exacerbated by the modest size of its tax base. Only Puerto Ricans employed by the U.S. government pay income tax on island earnings; others are exempt. To make matters much worse, Puerto Rico carries a number of large, unprofitable public corporations – notably, water and power utilities – on its balance sheets.

AUSTERITY IN THE TROPICS

Puerto Rico's economy stalled in the late 20th century, prompting the government to step up borrowing in the hope that it could spend its way out of the doldrums. But slow growth has only morphed to no growth, and the overextended government now faces the prospect of severe fiscal austerity similar to that imposed by the European Union on Greece. Like Greece, Puerto Rico's lack of its own currency (and thus its own monetary and exchange-rate policies) severely limits what the government can do to manage the crisis. And just as many debated whether Greece would be better off if it left the euro zone, there is increasing debate over whether it would be in Puerto Rico's interest to retain its current status as a territory, to demand statehood or to move toward greater independence in some sort of confederation with the rest of the United States.

BOOM AND BUST: 1940–2005

In the mid-1940s, Puerto Rico's sugar-cane-based economy was one of the poorest in the Caribbean. Since then, its development program and economic relationship with the mainland have moved through several phases, each powered by financial incentives designed to make the territory attractive to investors.

In 1948, Washington introduced Operation Bootstrap, a massive investment campaign aimed at rapidly industrializing the island. It seemed to work: Investment was accompanied by innovative economic and social programs that for a time won the island international praise as a development model.

With Operation Bootstrap, Puerto Rico's ties to the United States were sweetened by advantages not available elsewhere in the Caribbean. Under the umbrella of U.S. law, Puerto Rico offered investors assurances of contract and securities law enforcement unmatched in other parts of the developing world. What's more, this was a period in which substantial tariff and quota barriers put the U.S. market off limits to other developing countries. As a result, Puerto Rico enjoyed enviable advantages as an exporter.

The island economy grew impressively, presaging the awakening of the Asian Tigers – South Korea, Taiwan, Hong Kong and Singapore. GDP increased by 68 percent in the 1950s and 90 percent in the 1960s (albeit from a fairly low base). By 1970, manufacturing constituted a remarkable 40 percent of the island's GDP, and joblessness had declined to 10 percent – astonishing progress from a traditional agricultural economy with high seasonal unemployment and widespread underemployment. For a time, it appeared that Puerto Rico's per capita income might even converge with that of the United States.

Since then, however, growth has slowed drastically and income convergence has been reversed. The reasons are not difficult to discover. Unlike most U.S. states, Puerto Rico generated much of its electricity by burning oil. Thus, the 1973–1974 and 1979 oil shocks hit the island especially hard. At the same time, legislation that gradually extended the federal minimum wage to Puerto Rico and increasing competition from Asia eroded both Puerto Rico's production cost advantages and its attraction for corporate investors.

A new development phase began with approval of Section 936 of the United States Internal Revenue Code in 1976. Under Section 936 (formally, 26 U.S. Code Section 936), subsidiaries of U.S. corporations operating manufacturing facilities in Puerto Rico received federal tax credits that all but wiped out U.S. taxes on their Puerto Rican profits.

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The tax credits proved a powerful enticement for U.S. corporate investment in Puerto Rico, an era in which federal corporate income taxes took a big bite out of their mainland earnings. Indeed, it signaled the beginning of an era of creative accounting in which companies would scheme to realize their profits in tax havens. The island's manufacturing became more capital-intensive and diversified, marked by substantial investment in pharmaceuticals, medical products, scientific instruments, computers, microprocessors and electrical goods.

But in 1996, Congress decided that Section 936, which encouraged capital-intensive investment, created too few jobs to justify the cost in lost tax revenue and repealed the law. The island's industrialization program began a gradual decline that eventually became a free fall: The 10-year grace period on tax advantages for companies operating in Puerto Rico at the time of repeal ended in December 2005.

RUN-UP TO THE CRISIS

The phaseout of Section 936 revealed the downside of Puerto Rico's territorial status: When decisions critical to the territory's prosperity are made in Washington, U.S. concerns come first and Puerto Rico's second. Moreover, the creation of Nafta in 1995 allowed Mexico nearly equal U.S. market treatment – treatment that the subsequent establishment of Cafta-DR extended to include

Central America and the Dominican Republic. For the first time since the 1940s, the island's special status gave it no significant competitive advantage over other countries in the Americas that were operating at similar levels of economic development.

Worse was yet to come. The 2008–2009 international financial crisis and the subsequent slowing of the U.S. economy plunged the island into depression. Since 2006, Puerto Rico's real GNP is down by 12 percent, with no recovery in sight. The island's investment rate, which was around 30 percent of GDP in 2001, fell to 13 percent by 2010.

From 2006 to 2013, Puerto Rico lost 230,000 jobs in a workforce that numbered only 1.2 million. Federal transfer payments to Puerto Rican households – a mix of safety-net payments ranging from unemployment insurance to food stamps to Social Security Disability – increased from 6 percent of personal income in the early 1970s to 22 percent today. The portion of the population living in poverty is now almost three times higher in Puerto Rico than on the mainland (46 percent versus 16 percent), with children and the elderly particularly affected. Moreover, according to the Census Bureau, income inequality is higher in Puerto Rico than in any U.S. state.

With jobs scarce and emigration to the mainland unrestricted, it should be no surprise that Puerto Ricans have been leaving the island in droves. According to the Census, about 75,000 Puerto Ricans migrated to the mainland in 2012, nearly 46,000 of whom

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From 2006 to 2013, Puerto Rico lost 230,000 jobs in a workforce that numbered only 1.2 million. The portion of the population living in poverty is now almost three times higher in Puerto Rico than on the mainland.

were younger than 35. The Puerto Rico Planning Board estimates that by 2050, the territory will lose another 1.3 million, more than a third of its current 3.7 million population.

STUCK IN THE PAST

Although the onset of Puerto Rico's current economic woes appears at first glance to coincide with the revocation of the Section 936 tax incentives, the island actually began to lose its economic edge in the 1970s. Puerto Rico failed to adapt to globalization and changes in the world economy by switching to cheaper fuels to make electricity, by keeping wages low enough to compete with East Asian economies and by moving toward a more flexible industrial model. As a result, the island experienced a prolonged period of lethargic growth and ballooning government deficits, as every administration after 2001 issued additional debt rather than tightening its belt. Between 2008 and 2013 alone, Puerto Rico's debt increased by 55 percent.

Given the deteriorating fiscal situation and the unlikelihood of a federal bailout, the current administration of Alejandro García Padilla does not have the luxury of its predecessors to kick the debt can down the road. And he knows it: In 2013, Padilla's first year in office, the introduction of several new taxes to narrow the government's deficit heralded an era of austerity.

A cornerstone of the new taxes is the *patente nacional*, an additional tax on gross business income known elsewhere as a gross receipts tax. The *patente nacional* was expected to raise roughly $500 million annually, more than one-third of projected new revenue for the 2014 fiscal year. It covers all businesses with gross revenue of at least $1 million, regardless of whether they are profitable.

The business community has raised an outcry, warning that the tax would force many firms into bankruptcy. Total island tax revenues from July 2013 through April 2014 were $442 million below expectations, suggesting that many businesses were, indeed, unable to raise the necessary cash.

As of late June, there was still uncertainty surrounding this fiscal year's deficit and next fiscal year's budget. Estimated projections for the 2014 deficit range from $365 million to $1 billion. For a time, the central government was without cash or credit, as were Puerto Rico's largest public corporations – the Puerto Rico Electric Power Authority, the Puerto Rico Aqueduct and Sewer Authority and the Highways and Transportation Authority – which together are responsible for almost 40 percent of the island's public debt.

In March, Puerto Rico did manage to float $3.5 billion in general obligation bonds, enough to service its debts and cover the budget deficit through the 2015 fiscal year. To the surprise of many, and despite the recent junk status downgrades, the debt issue was vastly oversubscribed. Initial yields on long-term bonds were as low as 8.7 percent, compared with expectations of yields above 10 percent. Investors' thirst for immediate income in an era of returns on U.S. Treasuries

that hardly exceed the rate of inflation apparently worked in the island's favor.

But the budget relief looks to be short-lived. A few months later, the Puerto Rico Planning Board projected a fall in GNP of 0.2 percent for the 2014 fiscal year and 0.7 percent for the 2015 fiscal year, with independent economists predicting a revenue contraction of 1.5 to 2 percent for 2015. The credit-rating agencies were obviously unimpressed in July 2014, when they downgraded Puerto Rico's bond debt to even lower junk status.

Even fiscally conservative organizations, which for years have been advocating belt-tightening, have warned that Puerto Rico's push for a balanced fiscal 2015 budget could further weaken its economy.

Even optimists are having a hard time spying a light at the end of the tunnel. The Economic Activity Index published by the Government Development Bank showed that the economy contracted for the 19th consecutive month in April 2014, with the decrease felt across sectors. As of April 2014, Puerto Rico's economy employed fewer than one million people, with the number of employed having decreased by about 25,000 since April 2013. At 14.1 percent, the unemployment rate was twice that of the mainland. Moreover, that figure doesn't reflect the ballooning numbers of discouraged workers who don't bother to register: The labor-force participation rate fell below 40 percent for the first time ever.

In late June, the government went into full austerity mode with the passage of an emergency fiscal law allowing the administration to make spending cutbacks necessary to achieve a balanced budget. The measure will be in place for three years. An extension is possible unless three conditions are met:

- The previous fiscal year must end with a balanced budget.
- A Wall Street credit rating agency must peg Puerto Rico's general obligation bonds at investment grade.
- The economic growth forecast must be at least 1.5 percent for the upcoming fiscal year.

The emergency measure was accompanied by the governor's $9.6 billion spending plan for the 2015 fiscal year. The plan attempts to achieve more than $1.4 billion in cuts and adjustments by consolidating 25 government agencies and, among other measures, closing around 100 public schools. Some $775 million is budgeted to amortize debt, $525 million more than in the 2014 fiscal year.

Classic fiscal austerity programs work only when the resources released through government cutbacks quickly translate into private spending to create jobs and private income. There is no indication that this will be the case in Puerto Rico.

Given the island's long-stagnant economy, threadbare electric power system and large-scale emigration of its best and brightest, the most likely result is a vicious circle in which economic contraction accelerates and tax revenues shrink faster than government spending. Even fiscally conservative organizations like S&P, Moody's Investors Service and Fitch, which for years have been advocating belt-tightening, have warned that Puerto Rico's push for a balanced fiscal 2015 budget could further weaken its economy.

Recent research at the International Mon-

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etary Fund has confirmed the shortcomings of similar austerity programs. Specifically, the fund warned that the impact of changes in government expenditures on GDP is generally higher than previously estimated, implying that austerity policies can do more damage than generally believed. Indeed, a report by the IMF's chief economist, Olivier Blanchard, concluded that the fund's austerity policies in Greece had backfired, making a bad situation worse.

Perhaps in anticipation of potential problems associated with austerity, the Puerto Rican government has introduced legislation that lays a foundation for the restructuring of a portion of the debt owed by the country's three major public corporations. The new law would create an orderly process in which to write off $22 billion of the $40 billion owed by the Puerto Rico Electric, Aqueduct and Sewer and Highways authorities.

Puerto Rico has been relatively lucky so far in terms of borrowing power, but the island seems to be drifting into uncharted waters. Attempts at restructuring the public corporation debt could well lead to contagion to other bonds. Some investors already worry the new law signals that Puerto Rican officials are willing to change the rules to relieve financial stress, making the island's general obligation bonds fair game for restructuring, too.

As things now stand, Puerto Rico cannot declare bankruptcy, and the island's constitution stipulates that debt payments on general obligation bonds receive priority over other spending. Should officials face a choice between honoring their bond obligations and firing large numbers of public employees who provide basic services, however, the outcome is far from certain.

Further complicating the situation, a

number of hedge funds purchased major tranches of the $3.5 billion general obligation bonds issued in March. If the hedge funds choose to exploit Puerto Rico's financial desperation, they could further destabilize the investment situation by insisting on terms that guarantee them first-lien status in the event of a default.

Then there are the hopeless economics of Puerto Rico's public corporations. While the corporations are supposed to be fiscally autonomous, they have been subsidized by the general fund for years and their employees are the best paid on the island. Since political pressure has made raising utility rates virtually impossible, the government may be forced in the not-too-distant future to acknowledge that public enterprises are a losing proposition that can no longer be tolerated.

Hedge funds are betting on privatization, with some already buying the electricity authority's bonds. The hope is that private operators could run the power plants more efficiently than the government and have some leeway to raise rates. Whether the Puerto Rican polity will cooperate remains to be seen.

PONDERING THE FUTURE

Puerto Rico's long-term economic prospects are complicated by uncertainty about the island's status within the United States. Is the economy more likely to recover and prosper under its current territorial status, or with statehood, or with some sort of loose confederation with the United States? While advocates can be found for each, Puerto Ricans seem fairly evenly split between remaining a territory and becoming a state.

A recent General Accounting Office study suggested that Puerto Rico would probably receive a net benefit from statehood because it would be eligible for $9 billion to $10 billion in additional federal funding annually. But the GAO hedged its position by noting that "statehood's aggregate fiscal impact would be influenced greatly by the terms of admission, strategies to promote economic development, and decisions regarding Puerto Rico's government revenue structure."

Puerto Rico's governor, whose party supports continued territorial status, argues the GAO's calculations grossly underestimate the cost of statehood. According to García Padilla, if all residents were subject to federal taxes, the burden would turn Puerto Rico into a "Latin American ghetto." In any event, it's worth remembering that the choice of statehood is not entirely Puerto Rico's to make: Congressional Republicans wouldn't easily agree to give the heavily Democratic island two votes in the Senate and perhaps five in the House.

Puerto Rico's economic model has traditionally focused on keeping overhead and operating costs low to attract investment, encouraging manufacturing and relying on abundant federal funding to fill the economic potholes. With the public utilities immobilized by debt and island businesses forced to pay wages unjustified by productivity gains, there is little hope that operating costs can be controlled. This alone makes it unlikely that U.S. offshore manufacturing will again play a dominant role in creating critically needed jobs. Moreover, given Washington's shrinking budgets and the Puerto Rican government's massive debt, there's simply no chance that public spending will fill the gap left by the decline of manufacturing. Nor is it even remotely likely that the current austerity program will spur the sort of recovery needed to retain the island's better talent.

There is, however, a modest source of hope. Some local governments are stepping in to manage the damage done by Puerto Ri-

co's failed economic model. The municipalities of Ponce, Barceloneta and Caguas are forging alliances with Puerto Rican business groups and mainland-based developers. Barceloneta, for example, has invested some $13 million in initiatives, including a technological innovation center to train workers, and has fostered business incubators to ease the creation of new enterprises. In rural areas, municipalities hope to pool resources in order to set up distribution hubs to deliver produce to urban markets. As of mid-2014, around $1.5 billion had flowed into these sorts of local projects.

Moreover, the unique interplay between the tax code of the United States and that of Puerto Rico still gives the island some room to attract investment, as evidenced by two laws passed by Puerto Rico in 2012. To promote the export of services from the island and draw new professionals, Law 20 reduced the corporate tax rate on service export revenue to just 4 percent. To encourage investors to immigrate to the island, Law 22 eliminates taxes on investment income (with the exception of dividends and interest from U.S. securities, which are generally taxed by the federal government) once their Puerto Rican residence is established. As of April 2014, Law 22 had already attracted more than 200 wealthy investors in search of tax goodies.

With a lot of luck, Puerto Rico may be able to build on grassroots development efforts and the new tax incentives to dig its way out of a very deep hole. The success of this approach depends not only on attracting sufficient investment, but on developing and sustaining a strong local economic base with market-driven policies and a business-friendly environment. Puerto Rico's governments, both central and local, will also need to make development their first priority, modernizing the island's badly worn infrastructure and carefully targeting education to job creation.

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Finally, given that markets, investors and prospective residents have all been spooked by political and economic uncertainty, it would probably make sense for Puerto Rico to make peace with its territorial status for the foreseeable future. Given the magnitude of Puerto Rico's economic problems, allowing the interminable, contentious argument over political status to simmer is a luxury it can ill afford just now.


Look, Ma! No Hands!
TAXI RATES
$1.00 First 1/8
15¢ Each Additional 1/8

The Coming Transportation Revolution

BY ROBERT D. ATKINSON

Information and communications technology has already revolutionized industries from publishing and entertainment to education and health care – and now, it's transportation's turn. Two easy examples: Commuters can access real-time traffic information via their mobile phones, while adaptive signal lights can sense that a car is waiting at a red light with no cross-traffic present and switch to green to accommodate it.

But perhaps the ultimate manifestation of bringing intelligence to transportation is coming in the form of autonomous vehicles – cars and trucks that can literally drive themselves. Major car companies, including Audi, BMW, Ford, General Motors, Mercedes-Benz, Nissan, Toyota and Volvo, as well as some formidable tech giants (notably Google) are vying to field AVs.

I believe the economic impact of autonomous vehicles will be huge, but not for the reasons widely assumed. Direct productivity gains are likely to be modest since drivers still have to be in cars, although

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now only as passengers. The bulk of the gains will come from reducing the costs associated with accidents and traffic congestion. A recent report from Morgan Stanley estimated that autonomous cars could save $1.3 trillion in the United States annually, with global savings totaling more than $5.6 trillion. Cisco Internet Business Solutions Group forecasts savings of $810 to $1,400 per connected vehicle per year from reductions in crashes and congestion.

But for all their potential, autonomous vehicles aren't just around the corner. Even the most optimistic predictions place the date of commercial availability five to ten years in the future. And skeptics, among them, John Leonard, the head of MIT's Marine Robotics Group, told the *New York Times* "there won't be taxis in Manhattan without drivers in my lifetime" because prices for many of the core technologies underlying autonomous vehicles – computer processors, radar, cameras, side-laser scanners, ultrasonic sensors and global positioning systems – just won't come down to levels that are palatable to the mass market any time soon. Moreover, he and others point out that various companies' prototype AVs still encounter difficulty in rain and snow.

This is why Lux Research predicts that a truly autonomous car with the versatility of an experienced driver will not be available before 2030. Note, moreover, that since it takes at least 15 years to turn over most of the U.S. auto fleet, at best – assuming AVs become the standard in 2030 – we are talking about 2045 before they rule the road.

Sooner or later, though, AVs will almost certainly be ubiquitous. So it's worth taking a closer look at the likely economic benefits and the changes likely to be wrought by what promises to be a truly disruptive technology.

ANNUAL ECONOMIC BENEFITS FROM SWITCHOVER TO AUTONOMOUS VEHICLES

ECONOMIC BENEFITS	U.S. ECONOMIC VALUE-ADDED
Productivity in Transportation Industry	$20 billion
Reduction in Accidents	$900 billion
Reduction in Congestion	$100 billion
More Efficient Fleet Utilization	$12 billion
Reduction in Energy Use	$24 billion
Estimated Total Savings	**$1.05 trillion**

SOURCE: Author's calculations

LABOR PRODUCTIVITY

MIT's Andrew McAfee and Erik Brynjolfsson point to AVs as a proof for their thesis that technology is advancing so rapidly it will put people out of work faster than it creates jobs [*see an excerpt of their book in the Summer 2014 issue of the* Milken Institute Review – *ed.*]. But promises of higher productivity should be viewed skeptically. AVs are not Scotty's Star Trek transporters; commuting in an AV will still require time en route. An AV would enable people to do things other than drive – e-mail, reading, web surfing or catching up on *Fast & Furious (Sequel 31)*. To the extent this activity involves "real" work, productivity will increase slightly.

If more significant labor-saving gains are to come from AVs, they will come from the automation of trucking. The larger gains are more likely to be reaped in long-haul freight, where a truck is loaded at one warehouse and drives itself hundreds or thousands of miles to another warehouse. Most local commercial trucking would still need a human to load the truck and make deliveries along the route. There are 1.6 million truck drivers in the United States, but many are not long-haul truckers. Equally to the point, trucking adds a relatively modest

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amount to GDP: If automation eliminated half of truck driver jobs, average labor productivity for the economy as a whole would rise by about half a percentage point.

The story could be quite different for taxis. One could imagine an AV fleet, with individuals hailing them with smartphone apps. These cars could even be owned by individuals who let them be used as taxis when they would otherwise be idle. But the numbers of jobs at stake – and thus the potential for productivity gains – are not large in the greater scheme of things. Even if AVs freed all 240,000 taxi drivers for other work, the one-time productivity increase would be just 0.2 percent.

It's possible that automated buses could be developed, but some degree of on-board supervision would still be needed. If half of bus driving jobs were eliminated, average economy-wide labor productivity would increase by just 0.1 percent. That doesn't entirely exhaust the potential of commercial AVs. The mining company Rio Tinto is already deploying self-driving ore trucks. But again, the numbers suggest evolutionary gains, with roughly $20 billion annually in labor saving.

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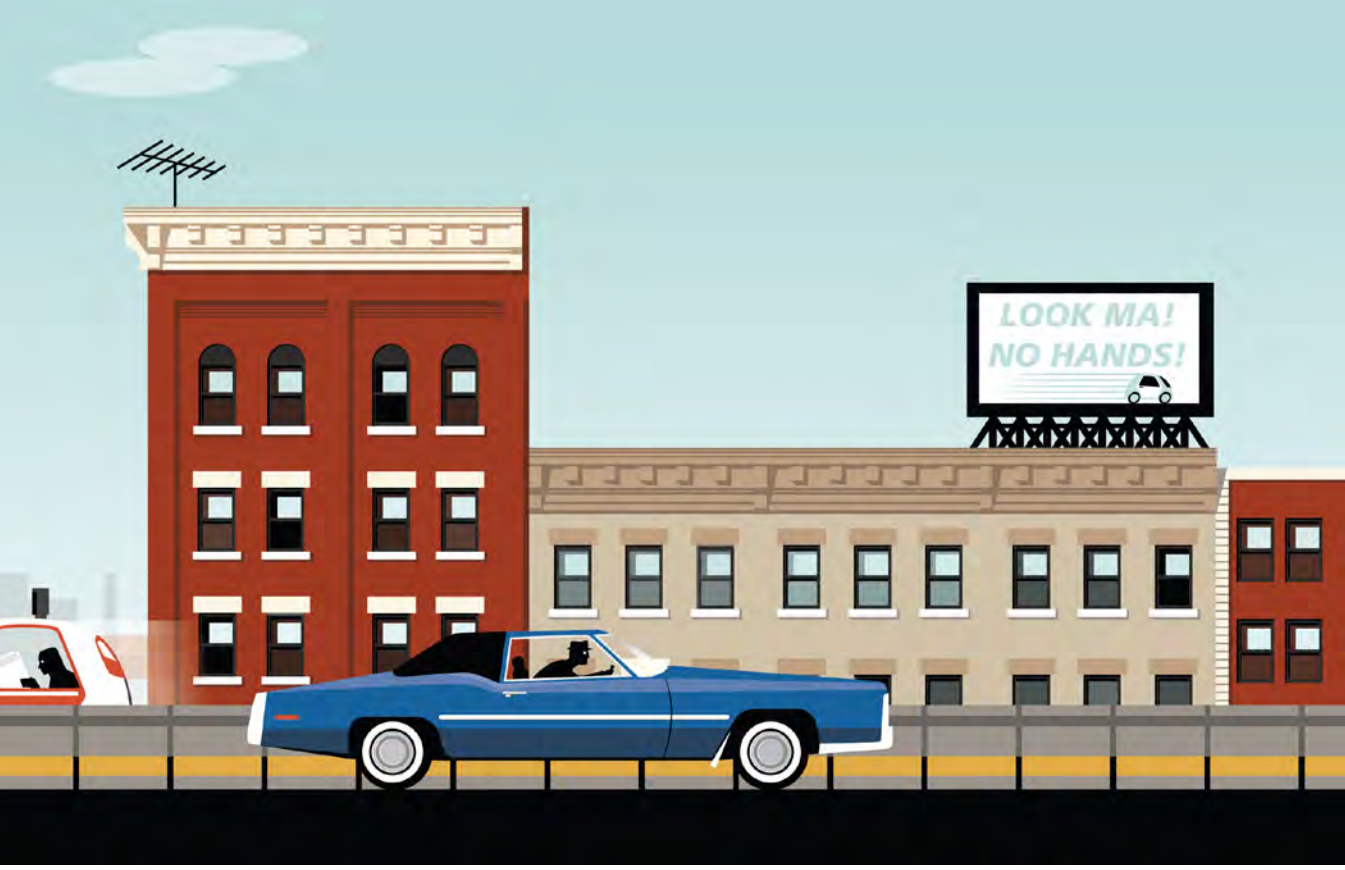
IMPROVED SAFETY

More significant gains will probably come from collision avoidance. According to the Department of Transportation, the direct cost of traffic accidents in the United States totaled $277 billion in 2010, including $93 billion in lost productivity, $76 billion in property damage, $35 billion in medical expenses and $28 billion in added traffic congestion. Strikingly, this figure was dwarfed by an estimated $594 billion in indirect costs – decreased quality of life due to injuries and death. Human error causes a vast majority of traffic accidents. In fact, one federally funded study from the 1970s estimated that human error probably caused over 90 percent of these accidents. And while that study is dated, one would expect the figure to be even higher in an era in which vehicles are far better equipped for safety.

Autonomous vehicles could drastically reduce accidents. Most obviously, AVs don't drive while distracted, tired, inebriated or impaired by age or inexperience. And, of course, they can be programmed to obey traffic laws. Less obviously, new technologies – including communication among AVs – will add a layer of protection unimaginable a few decades ago.

While it would be unreasonable to imagine a future in which an autonomous vehicle is never involved in an auto accident – among other issues, AVs will have to share the road with human drivers for a very long time – Google notes that its driverless cars have already logged more than a half million miles without causing an accident. Moreover, even before truly autonomous vehicles roam the roads, a range of IT-enabled automated driver assistance technologies – including blind spot detection, lane departure warnings, dangerous



Because AVs need less headway to operate safely, highways carrying only autonomous vehicles could accommodate two to three times as many automobiles.

proximity (precollision) indicators, rearview cameras and parking assistance – are already having a significant impact in reducing accidents and injuries.

For example, since 2010, Volvos equipped with a collision avoidance system that can automatically brake to avoid obstacles have experienced one-quarter fewer property-damage claims than Volvos without the system. According to the insurer-supported Insurance Institute for Highway Safety, forward collision warning systems lead to a 7 percent reduction in vehicle-to-vehicle collisions. That number increases to 15 percent with automatic braking systems.

A recent study by engineers at Virginia Tech University examined some 2,500 collisions resulting from unintended lane departures from 2007 to 2011. They found that if the vehicles had been equipped with lane departure warning systems, 30 percent of the crashes could have been avoided. The science journalist Philip Ross notes that parallel simulation examining the effects of forward collision warning systems "found far greater differences, preventing as many as 53 percent of rear-end collisions."

INFRASTRUCTURE PERFORMANCE

A third source of savings will come from improved system performance – that is, increased road capacity and reduced congestion. In 2011, Americans lost 5.5 billion hours (and 2.9 billion gallons of fuel) waiting in

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traffic, which translates into 38 hours per year for the average commuter. The Texas Transportation Institute's *Urban Mobility Report* estimates that this "congestion penalty" – the value of commuters' lost time and extra payments at the pump – conservatively cost Americans over $400 per person in 2011.

One study estimated that even a highway running at peak capacity has only 4.5 percent of its surface area occupied. But because AVs need less headway to operate safely, highways carrying only autonomous vehicles could accommodate two to three times as many automobiles. Moreover, because one-fourth of congestion is attributable to traffic incidents that would largely be avoidable, AVs would increase throughput this way as well. Note, too, that the more efficiently existing transportation infrastructure is utilized, the less need there will be to invest in new roadways. Assuming that AVs reduce congestion by half, the economywide savings could run to $100 billion per year.

AVs would also enable more efficient parking since they could drop off passengers, park themselves at considerable distance and return when called. Note the synergies here: A substantial portion of urban congestion consists of inefficient searches for parking – much of which could be eliminated by automated parking systems.

INCREASED FLEET UTILIZATION

AVs are well positioned to increase use of vehicles as well as road and parking infrastructure. Today, the average American vehicle sits idle 95 percent of the time. But autonomous vehicles could be shared, much the way private aircraft are shared today, with computer systems routing and positioning vehicles for minimum wait time. They will also present a compelling mobility option for those who don't wish to own vehicles. Instead of turning to taxis, Uber or Zipcar when one needs temporary transportation, one can imagine just hitting a button on a smartphone app and an

autonomous vehicle that your neighbor owns shows up to take you to your destination.

A recent study calculated that a fleet of autonomous vehicles acting as a personalized public transportation system would be cheaper and more efficient than taxis, using half the fuel and a fifth the road space of ordinary cars. Another study showed that a single shared AV could replace between 9 and 13 privately owned vehicles without impeding travel behavior.

Reducing the number of cars would not reduce costs proportionately because cars depreciate from use as well as age. If increased car sharing allowed a reduction of just 15 percent of passenger vehicles in the fleet, I estimate the savings would exceed $70 billion per year. Assuming that the remaining cars are driven 15 percent more to make up the difference, the economic benefits (netting out faster fleet depreciation) would be approximately $12 billion per year.

ENERGY SAVINGS

With all other things equal, AVs would also reduce energy consumption for travel. As noted earlier, less congestion means higher mileage.

But AVs would also be able to save by "platooning," in which a line of trucks would ride only a few feet apart in order to reduce wind resistance the way stock car drivers "draft" to conserve fuel. A Stanford University technology spinoff, Pelaton, estimates that in a two-truck platoon the rear truck could save approximately 10 percent in fuel costs. If platooning increased average fleet mileage by 5 percent, the savings would come to $24 billion annually.

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Autonomous vehicles could significantly enhance personal mobility and convenience, particularly for the elderly, disabled and, of course, children...

OTHER ECONOMIC BENEFITS

Just some of the possibilities: With AVs, travelers will probably substitute driving for airline travel in medium-distance trips because AVs would be faster than ordinary cars and would allow them to work or play en route… Driving classes and schools are likely to go the way of the manual transmission, once AVs dominate… Much safer roads would allow government to reduce traffic police… Roads would not need to be as well lighted since AV guidance would be electronic… Autonomous vehicles could significantly enhance personal mobility and convenience, particularly for the elderly, disabled and, of course, children… Quantifying this last benefit would not be easy, but it does suggest just how disruptive AV technology could be to a society that is rapidly aging.

GETTING TO THE AV FUTURE

For all their promise, making the transition to AVs will pose challenges. The major one is cost. Innovation and scale economies can be expected to bring down these costs eventually, but for now they are a key barrier. Steven

Enthusiastic acceptance would be critical to market viability because much of the benefit to society depends on wide adoption.

Dellenbeck of the Southwest Research Institute in San Antonio estimates that the cost premium will not fall below $10,000 for at least a decade. On reflection, $10,000 isn't a lot of money in light of the product's advantages in safety and efficiency. But the public will have to be educated about AVs before they're willing to switch; a JD Power survey in 2012 found that only 20 percent of consumers would buy an AV if the price premium was more than $3,000.

More to the point, the public will have to be convinced that driverless cars are very safe; the JD Power study also found that only 37 percent of consumers would definitely or probably buy an AV if it were available, regardless of the price. It is not all that surprising that ceding control of vehicles to computers is daunting to most people. But enthusiastic acceptance would be critical to market viability because much of the benefit to society depends on wide adoption.

To see why, consider the research of Steven Shladover, an engineer at the University of California, and colleagues. They estimate that adaptive cruise control in which AVs communicate with one another could increase lane capacities by 80 percent if 90 per-

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cent of cars had it. But if only 50 percent of vehicles have the technology, lane capacity grows by only 21 percent.

In other words, this is a classic case in which much of the benefit is "external" to the owner of the vehicle. In cases like this, the economically rationale way to correct what amounts to market failure is to tax the external costs and subsidize the external benefits. Hence, the logic of speeding the transition to AVs by subsidizing them, at least temporarily (as the federal government has done for parallel reasons with hybrid and electric vehicles).

Governments will also have to make AVs legal. Four U.S. states – California, Florida, Michigan and Nevada – along with the District of Columbia have passed laws permitting open road testing of autonomous vehicles. Europe is also beginning to look at adjusting its laws with regard to legalization of AVs. But as a BMW representative recently noted, "The legislation is just not in place for us to be able to put these [autonomous] vehicles on the [European] market."

Still, an important step toward this end was taken in April 2014 when an amendment to the Vienna Convention on Road Traffic (an international treaty designed to facilitate international road transit that covers 72 nations with the major exceptions of the United States, China and Japan) was adopted that will permit AV use on public roads, so long as the vehicle can "be overridden or switched off by the driver."

Europe also has a potential advantage over the United States if it can make autonomous vehicles legal for sale and operation across the entire European Union, while in the United States the legal status of autonomous vehicles is determined on a state-by-state basis. In May 2013, the U.S. National Highway Transportation Safety Administration issued a preliminary policy statement intended to guide states in permitting testing of the emerging vehicle technology. But NHTSA can only advise the states, which will make their own decisions. Arguably, the best reason for optimism here is that states will be competing to attract AV manufacturers, which will presumably be leery of jurisdictions that are unwilling to give them leeway in use on the roads.

A particularly thorny issue will pertain to legal liability – specifically, who is liable if an autonomous vehicle is involved in an accident. Is it the passenger (who is no longer the driver), the manufacturer or the company that wrote the software for the AV's computers? One option would be to create a no-fault fund that compensated victims in AV accidents, possibly modeled after the federal government's Vaccine Injury Compensation Program. Vaccine makers pay a 75-cent tax for every dose purchased (which is presumably passed through in the price of the vaccine) and are thereafter exempt from suits. Note that the rationale would be quite similar: As with vaccines against communicable diseases, much of the benefit of AVs would be reaped by third parties.

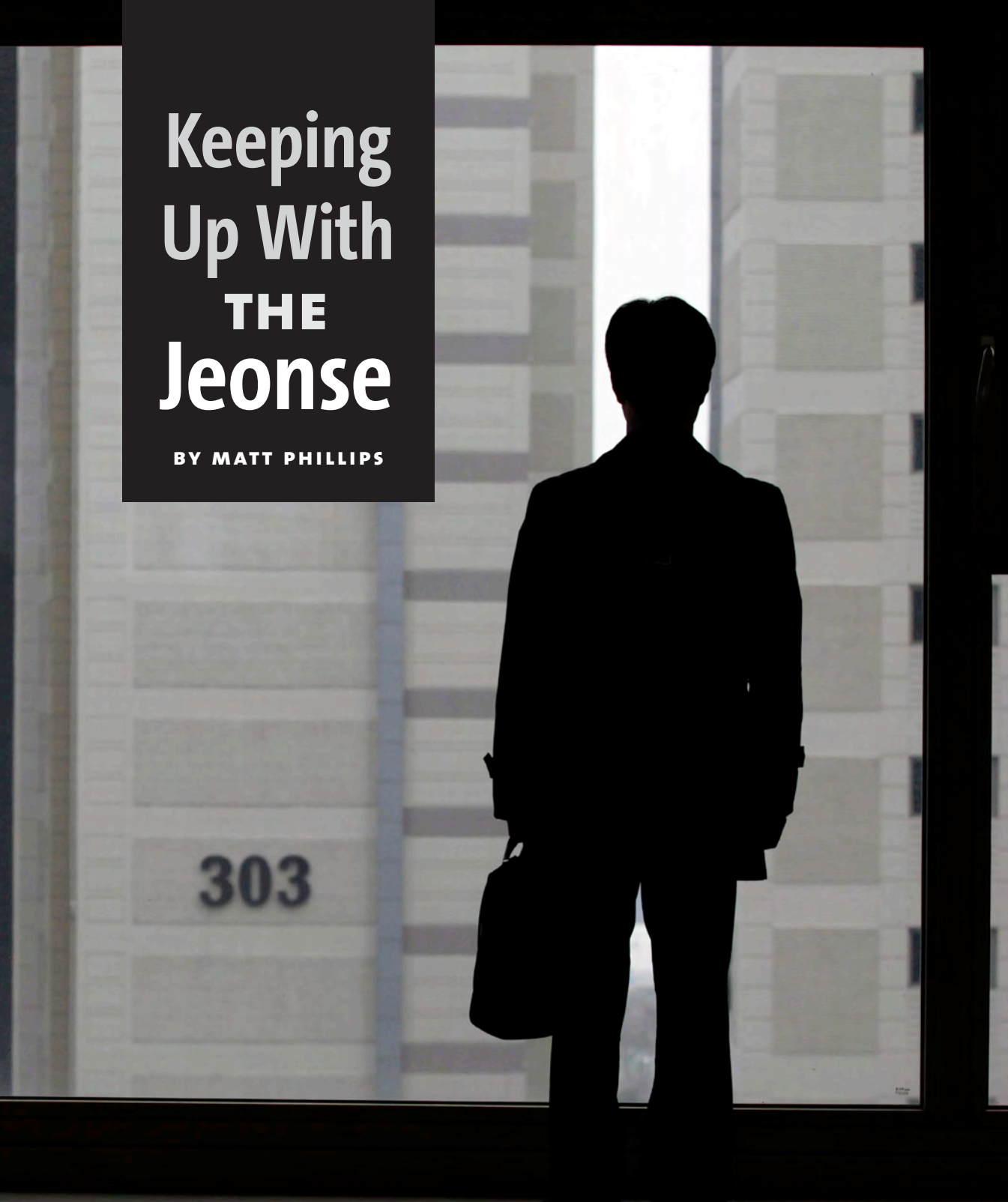
* * *

The journalist Tom Vanderbilt reminds us in a recent issue of *Wired* magazine that Karl Benz, a founder of Mercedes-Benz, once lamented that the market for automobiles would be limited by the lack of qualified chauffeurs. Today, Bill Krenik, chief technologist for the semiconductor manufacturer Texas Instruments, argues that the advent of autonomous vehicles will be as transformative as the shift from the horse to the internal combustion engine was in a prior era. And just as it once seemed unimaginable that we could drive vehicles ourselves, today it seems unimaginable that machines could drive them for us.

As any student of recent economic history can tell you, when housing markets stumble, whole economies can fall. The latest cautionary tale is from South Korea, whose current economic woes have been compounded by its residents' unusual method of renting apartments.

Keeping Up With THE Jeonse

BY MATT PHILLIPS



South Korea's economy, for so long the wonder of East Asia, is stuck in first gear – the second-quarter growth rate of 3.6 percent was alarmingly slow – thanks to lackluster consumer spending. And, as they tend to do, policymakers are looking for a short-term fix in the teeth of long-term problems.

THE JEONSE

In July, officials loosened mortgage-lending restrictions at banks in an effort to boost the housing market, which has had four straight years of price declines in Seoul, the largest housing market in the country. The government also plans to increase tax deductions for spending on credit and debit cards in an effort to prod the populace toward the check-out register.

There's a catch, though: South Koreans are in no position to go on a borrowing binge. In fact, they've already gorged. Since the end of 2004, total household debt outstanding has surged by 107 percent. At the end of the first quarter it stood at a record high of 1,035 trillion won (roughly $990 billion), or almost $20,000 per person.

As a share of disposable income, household debt rose from 131 percent in 2002 to 164 percent at the end of 2012, the most recent year for which data are available from the OECD. That's far above the 135 percent average for the developed economies tracked by the OECD.

Of course, low interest rates – a global phenomenon – mean the monthly payments on this debt remain relatively modest. And South Korea isn't alone in bulking up on debt. Many countries – including the supposedly prudent Scandinavian nations – have high levels of household debt, too. South Korea is different, however. Unlike Scandinavians, South Koreans aren't borrowing to buy houses; increasingly, they're borrowing simply to rent them.

It all has to do with a highly idiosyncratic convention of the South Korean rental market: Many tenants who lease apartments don't actually pay rent. You read that right. They don't make monthly payments.

MATT PHILLIPS, a former reporter for the *Wall Street Journal*, is markets and finance editor for *Quartz*, an online magazine specializing in business news.

The Jeonse system might have been something of a secret weapon powering Korea's rapid economic development.

Don't start planning your move to Seoul just yet, though. There's a big catch. To get one of those apartments, you need to plunk down, on average, the equivalent of almost $300,000. Under the country's *jeonse* (sometimes transliterated as *chonsei*) system, tenants lend significant chunks of money to landlords in lieu of rent. (*Jeonse* is usually translated as key money.)

It works like this. In exchange for access to the property for a specified term – usually two years – tenants make a lump-sum deposit to the landlord, based on a percentage of what it would cost to buy the property. The transaction is essentially a loan, with the tenant as the lender, the landlord as the borrower, the interest foregone to implicitly cover the rent, and the house as the collateral.

Jeonse contracts have deep roots in Korea's history; indeed, they can be traced back several hundred years. But their popularity grew sharply in the 1960s and 1970s. Amid the country's rapid transformation into an urban, industrialized economy, South Korea faced two large problems: housing rural residents arriving in cities and financing economic activity. The *jeonse* system was an elegant solution to both.

"On the one hand, it's a household rental system," explains Hyun Song Shin, a professor of economics at Princeton who has studied *jeonse*. "But actually it's an informal lending scheme as well."

THE JEONSE

Shin has a hunch that the system might have been something of a secret weapon powering South Korea's rapid economic development. Savings rates surged from the 1960s into the 1990s, in part, he argues, because people socked away significant sums for *jeonse* money. The system efficiently channeled that money to Korean landlords, many of whom were also small-business owners and entrepreneurs, and happy to forgo rent in favor of a lump sum to invest in their businesses. During the financial crisis of the 1990s, the system only became more entrenched as it allowed South Koreans to bypass a deeply troubled banking system.

Most landlords of *Jeonse* are now no longer entrepreneurs who have access to investment projects with high returns.

Jeonse worked well for decades, as rising home values and high interest rates made it relatively simple for landlords to take the cash that renters handed them and invest it in a way that would yield high returns. But the dynamic has recently changed. Household savings rates, which had hovered above 20 percent for much of the 1980s and 1990s, have dropped sharply, to under 5 percent. At the end of 2012, the last year for which data are available, the rate was a meager 3.5 percent.

So, what happened? The short explanation: In the wake of the Asian financial crisis, South Korea's banks started lending big to individuals. Between 1998 and 2009, household debt increased by about 13 percent annually, far more rapidly than the growth rate of the economy. And as it's gotten easier to borrow, South Koreans have had less incentive to save. That's transformed the *jeonse* from a vehicle to build personal savings into something quite different. "If you don't have the *jeonse* deposit, you actually go and borrow it from the bank," said Shin, who this year took a position as head of research at the Bank for International Settlements in Switzerland. "And that used to never happen."

The view from the proverbial trenches is instructive. When Minwoo Park, a 33-year-old software engineer, rented his three-bedroom apartment in Seoul's Yeongdeungpo [CQ] district, he borrowed the lump sum needed for a *jeonse* contract from a bank. From his perspective, it made a ton of sense. Thanks to low interest rates, his monthly payment amounts to roughly one-quarter of what it would cost him to rent a comparable apartment. "It's a better deal," Park says. "Everyone prefers *jeonse*."

Not everybody can score as good a deal as Park, who was easily able to get a loan for the *jeonse* payment thanks, in part, to the solid salary he earns working in the mobile advertising industry. (He declined to offer specifics.) But the current economics of the *jeonse* are a clear win for tenants. Stagnant South Korean housing prices have pushed more would-be buyers to hold off on purchases. Many of them have opted for *jeonse* apartments as they wait for housing to recover. That's boosted demand for *jeonse* apartments. And with supply constrained – landlords aren't as eager to let all the gravy go to tenants – *jeonse* prices are soaring. "Now the *jeonse* is kind of a problem," said Dongrok Suh, a Seoul-based partner at McKinsey and Company.

Jeonses aren't risk-free; they're loans, and sometimes loans don't get paid back. Of course, *jeonse* tenants have some protection:

If the landlord defaults on the contract and doesn't return the *jeonse* on schedule, the tenants are entitled to get it when the house is sold.

But remember, the *jeonse* is a lump-sum payment, based on a percentage of the house's value. Traditionally, that percentage was somewhere between 40 and 60 percent. That provided the tenant/lender with a large margin of safety in case of default. But as demand for *jeonse* apartments has risen, so has the percentage landlords are asking tenants to pay. That figure is now often between 70 and 80 percent – and in some instances has reached 90 percent, leaving a much smaller safety cushion.

Moreover, many landlords simply don't have the cash to pay back their tenants. Citing a Bank of Korea report, the *Economist* recently noted that 10 percent of the country's 3.7 million *jeonse* landlords could have difficulty repaying the money they owe to tenants. In other words, they are stuck in the system because they need to find another *jeonse* tenant in order to pay off the previous occupant.

But the *jeonse* is problematic for the South Korean economy for reasons beyond the risk of a cascading financial bust. For one thing, the rising size of *jeonse* payments sucks more and more money out of productive investment. "In the past, *jeonse* security deposits were used to build additional houses, or increase business investment," wrote analysts for Nomura, the Japanese financial giant. "Most landlords of *jeonse* are now no longer entrepreneurs who have access to investment projects with high returns."

Note, too, that higher *jeonse* payments also siphon cash from the consumer sector – a problem at a time when the South Korean economy is operating at less than capacity.

The government is trying to wean South Koreans from the *jeonse* system through a series of policy changes. It has moved to make some component of ordinary rental payments tax deductible, reducing the financial advantage of the *jeonse* option. It's also easing

tax burdens on landlords in an effort to coax more building owners to switch from the *jeonse* system to conventional rental arrangements. "By lessening the burden of those paying monthly rent and decreasing the demand" for *jeonse*, the Ministry of Land, Infrastructure and Transport explained in a press release, "we expect to lessen the discrepancy in the market and stabilize the prices."

There are signs that things are moving in the direction that the government is hoping for. The share of South Korean apartments rented under monthly payments is increasing, though *jeonse* contracts still account for a little over half. Meanwhile, there are signs of life in the South Korean housing markets. The average price increased by 0.9 percent in the first six months of 2014, after a 0.2 percent decline in 2013, according to Kookmin Bank, one of the largest mortgage lenders in the country.

But more broadly, critics argue that the government's plan to push people away from renting homes and back into buying them is a short-term fix that won't solve the underlying problem. South Korea is subject to some of the most disruptive demographic trends among advanced economies.

In part, this is to be expected: As countries grow wealthier, birthrates typically fall. But the drop-off in South Korea has been precipitous. Since the 1970s, the national birthrate has fallen by roughly two-thirds, to just 1.2 births per woman of child-bearing age – the lowest among all developed economies.

Moreover, the declining birthrates have been accompanied by other signs of growing societal stress. Suicides have soared: South Korea's rate, 25.9 per 100,000 people in 2011, made it the highest among the countries tracked by the World Health Organization. Divorce rates have also risen, even as the number of couples getting married has been slipping. The prospects for young people have grown so grim that 20- and 30-somethings have invented a new term, *sampo-jok*, which translates loosely (according to the *Korea Times*) as "those who have given up on three things – dating, marriage and children – due to economic reasons."

That doesn't bode well for consumption growth; typically, much consumer spending is done during the early years of starting a family, when people buy houses and cars. And it likely won't be fixed by pushing the country further into debt. The high cost of living – including outsized spending on *jeonse* payments and sky-high educational costs – is seen as one of the prime reasons young couples put off marriage and have fewer children when they do tie the knot. "There is a direct link between this financial insecurity and South Korea's declining birth rate," wrote McKinsey Global Institute analysts in a recent report on South Korea's growth prospects.

South Korea's president, Park Geun-hye, gained office in early 2013 in part on the back of vows to ease the nation's economic malaise – in particular, the growing strains of a heavily indebted middle class. And she has taken some action, including establishing a largely symbolic "national happiness fund" to help some South Koreans refinance their debt at lower interest rates, and pushing the fiscal stance of the country toward expansionary spending.

But when push comes to shove, South Korea seems to be taking the position that the solution to the economic doldrums is another round of consumer borrowing. That would be awfully convenient. As the recent experience of the United States suggests, though, coaxing over-extended borrowers to go back to the bank for more is tough, no matter how enticing the terms. And that could mean South Korean efforts to rekindle growth might not bear fruit for quite some time.

LOOK WHO'S ARRIVED!

In September, Edward DeMarco joined the Institute's Center for Financial Markets as a senior fellow-in-residence to drive the Center's work on housing finance reform and housing policy issues. It's a subject he knows better than almost anyone; until earlier this year, he was acting director of the Federal Housing Finance Agency, overseeing the operations of the giant government-sponsored mortgage intermediaries, Fannie Mae and Freddie Mac. As their conservator, he directed the formidable effort to stabilize their financial condition, even as they shouldered much of the burden of supporting U.S. housing finance in the wake of the market meltdown.

Said DeMarco: "I look forward to speaking and writing on housing policy from the Milken Institute's influential platform." And we're looking forward to having a colleague with such deep knowledge of this critical sector.

AFRICA RISING

In August, President Obama hosted the U.S.-Africa Leaders Summit, bringing 50 heads of state to Washington for three days of discussion. Our burgeoning Africa Initiative was in town too, holding a corporate and investor roundtable that brought together a host of entrepreneurs, government officials and investors from both the United States and Africa. The range of topics included governance, the perceptions and realities of investing in Africa, and the ongoing development of capital markets on the continent. Candor and passionate engagement were the orders of the day; the discussion will help inform our upcoming Africa-related research and programming on capital market development and infrastructure finance.

THE EAST IS (IN THE) BLACK

Want to know the strongest urban economies in Asia? So did Institute researchers, who recently released the "Best Performing Cities Asia 2014" study. Modeled on the Institute's annual, ever-popular index of the economic performance of U.S. cities, our researchers had to overcome myriad research and statistical challenges posed by cross-border data comparisons.

The top metro by their criteria? Shenzhen, China – a fitting victor, as the city was the birthplace of the PRC's transition initiative over three decades ago. To discover the rest of the top 10, check out the full report on the Institute website.

Shenzhen, China

I'm okay, you're better?

Creating indexes of national well-being are all the rage among social scientists these days, an outgrowth of the belated realization that men and women do not live by GDP alone. While comparisons between countries/places are problematic – both the choice and weighting of index components (personal safety, income, education, pollution, etc.) are somewhat arbitrary – much of the fun is in the ranking. (Probably the boldest effort is the Legatum Institute's Prosperity Index, which ranked 142 countries in 2013.)

The new OECD Regional Well Being website takes a different tack, scoring all OECD countries and hundreds of regions within them by eight criteria (best = 10). It doesn't calculate overall rankings, but does provide tons of ancillary data. Here's a small sampling that allows myriad interesting comparisons. Among other striking points: Many U.S. states (though hardly all) stand up well in comparisons to affluent countries. — *Peter Passell*

	EDUCATION	JOBS	INCOME	SAFETY	HEALTH	ENVIRONMENT	CIVIC ENGAGEMENT	ACCESSIBILITY TO SERVICES
United States	8.5	6.7	10.0	8.2	5.7	7.2	5.0	6.8
California	8.1	5.4	10.0	2.9	7.8	7.9	3.4	6.9
Iowa	9.6	9.1	9.5	8.7	6.4	6.6	5.8	7.2
Mississippi	8.1	5.3	7.2	0.0	1.3	8.3	6.9	4.7
New York	8.7	6.3	10.0	4.4	7.5	5.7	3.6	7.2
Texas	8.1	7.0	9.3	3.3	5.2	8.3	2.6	5.6
Vermont	9.7	9.3	9.5	8.7	6.9	8.3	4.6	7.8
France	7.0	5.5	5.5	9.7	8.9	5.4	7.4	7.3
Germany	8.5	8.3	6.0	9.9	7.3	4.1	5.7	8.2
Japan	7.6	9.2	4.7	9.9	10.0	4.5	3.3	6.9
South Korea	7.5	7.8	3.3	9.3	8.2	0.0	6.5	10.0
Sweden	8.0	8.0	4.7	9.9	8.2	7.7	8.2	8.9
Poland	9.6	4.6	1.5	9.5	2.8	2.9	1.3	5.9

SOURCE: OECD

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