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FROM THE CEO

As someone with a keen interest in politics, I enjoy following election campaigns, even staying up late on election nights as the results come in – and last November's mid-term polls were no exception. My interest in elections has a professional dimension as well, of course, since my colleagues and I at the Milken Institute are often focused on public policy issues. Yet even as we engage in policy analysis, we stay out of politics.

Since its founding, the Milken Institute has been relentlessly nonpartisan, and has remained so in recent years even as many other think tanks have chosen to take sides in the ideological battles of the time. We work with government officials on both sides of the aisle, and across the political spectrum.

That doesn't mean our experts don't draw conclusions from their research that sometimes please conservatives and displease progressives – or vice versa. It does mean that, whatever their points of view, we expect Institute professionals, and the people we bring together, to be open to the ideas and insights of others.

At the Institute we try to be a forum for people on both sides of the aisle. And we generally succeed: Many of the officials and policy advocates who join each year's Global Conference tell me that, while with us, they are able to engage with their counterparts in ways notably lacking in partisanship.

Thus, at the Institute's Global Conference in 2013, Eric Cantor and Harry Reid shared a stage to discuss where they disagreed – and agreed – on issues. That same year, at November's Partnering for Cures meeting in New York, one panel featured Chairman Fred Upton (R-Michigan) and Representative Diana DeGette (D-Colorado) of the U.S. House Energy and Commerce Committee discussing their important 21st Century Cures initiative.

Our commitment to nonpartisanship extends to our publications as well. In this issue of the *Review*, for example, you'll find an article by Alan Krueger, the former chairman of President Obama's Council of Economic Advisers, a few pages away from a thoughtful essay by a leading young conservative, Reihan Salam of the *National Review*.

By providing a forum for intelligent, cordial debate, our hope is that the clash of ideas can lead to solutions rather than deepen ideological separation. We are always looking for areas where there can be common cause. Our goal is not scoring points with allies, but getting things done that will actually improve lives.

Michael Klowden, CEO

Review

JG, our steadfast correspondent from Passadumkeag, Maine, wonders how we choose the economist caricatured on the spine of each year's worth of *Review*s, lined in order. Another great question, JG. (We have to keep up her morale.)

For many decades we left the decision to a secret committee of Milken Institute notables that was sequestered in an underground chamber of our West Coast redoubt until a unanimous decision could be reached. Success was indicated to the assembled masses by a puff of white smoke from the ventilators – at least until the Santa Monica fire marshal heard about it. But like many organizations dedicated to streamlining operations, we've simplified the process: I choose.

Meanwhile, take a gander at a line-up you won't have to wait to enjoy.

Peter Cappelli of Penn's Wharton School takes aim at the received wisdom about skills shortages. "It is difficult," he writes, "to think of another labor-market issue in which rigorous research is so lacking, where parties with a material interest in the outcomes have so dominated the discussion, where the quality of evidence and discussion has been so poor and where the stakes are so large."

Ben Bland, the *Financial Times*' correspondent in Indonesia, assesses that huge country's economic prospects in the wake of a presidential election – the results of which represented a sharp break from crony-capitalism-as-usual. Indonesia, he argues, is at a crossroads at which it "can either buckle down for economic reform and assure substantial growth for decades, or languish near the low end of middle-income status."

Alan Krueger, a former chairman of President Obama's Council of Economic Advisers, acknowledges the value of Thomas Piketty's high-profile book in spurring public debate

DAVID SMITH

over income inequality, but notes that Piketty ignores a related – and arguably more important – issue. "I calculated that mobility will slow by about a quarter for the next generation of children," he writes. "The U.S. may thus be headed for an inequality trap, where rising inequality in one generation reduces opportunities for economic advancement for disadvantaged children in the next generation, and so on into the future."

Seema Jayachandran, an economist at Northwestern, offers a disquieting view about the prospects for women in developing countries. "The idea that development will eradicate gender inequality is based on some facts, yet fails to account for others," she argues. "The tidiness and optimism the model offers is apt to blind us to societal patterns in specific countries that buck the trend. Indeed, this inclination to assume that economic development is the all-purpose fix distracts from the very real need to press for gender equality by other means."

Reihan Salam, the executive editor of the *National Review*, outlines the policy agenda of what has come to be known as reform conservatism. "Nobody has all the answers," he writes. "But the reformers are offering America something that neither liberals nor, for that matter, the Republican establishment can: constructive responses to the daunting new problems of a world in which America's prosperity and social stability can no longer be taken for granted."

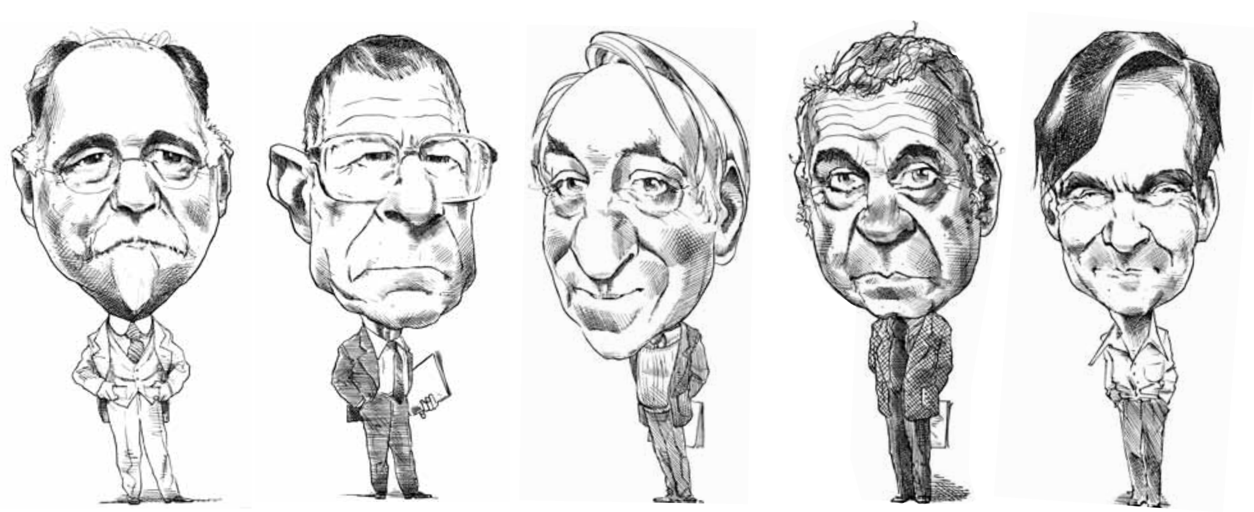
John Komlos, a former professor of economics at the University of Munich, wonders whether the ongoing celebration of Schumpeter's "creative destruction" has passed its sell-by date. "Just because we have been innovating and growing successfully for a quarter of a millennium by no means implies that the process will, or should, continue indefinitely," he argues. "No such economic law exists, and the historical record indicates that there are times when economic regimes reach a tipping point and abruptly change direction."

Reena Aggarwal (Georgetown), **Daniel Gorfine** (OnDeck and Milken Institute) and **Dana Stefanczyk** (Georgetown) address a chronic problem bedeviling advanced and developing economies alike. "Efficient capital markets remain a prerequisite for sustained economic growth," they argue, "and nowhere is their inefficiency felt more than in small and medium-sized enterprises. That's why the emergence of alternative financing platforms for SMEs – in particular, those that exploit the low overhead of the Internet – is cause for celebration."

Cup running over? Make room for a bit more policy elixir: We've also packed in an excerpt from **Atif Mian** and **Amir Sufi**'s path-breaking book, *House of Debt*, and a charticle from our favorite demographer, **Bill Frey**.

– Peter Passell

DAVID SMITH



BY WILLIAM H. FREY

The plight of the millennials, all-too-often underemployed and living in their parents' basements, is well-chronicled. Interestingly, though, increasing numbers of them are making the best of it by moving to "cool" places.

Don't look to aggregate numbers from the Census Bureau for confirmation. Intercounty migration by young adults actually dipped in 2013-14 for a second year in a row to 6.6 percent – down from 7 percent in 2011-12 and well below the 9-10 percent rates early in the 2000s.

HAL BERGMAN/GETTY IMAGES

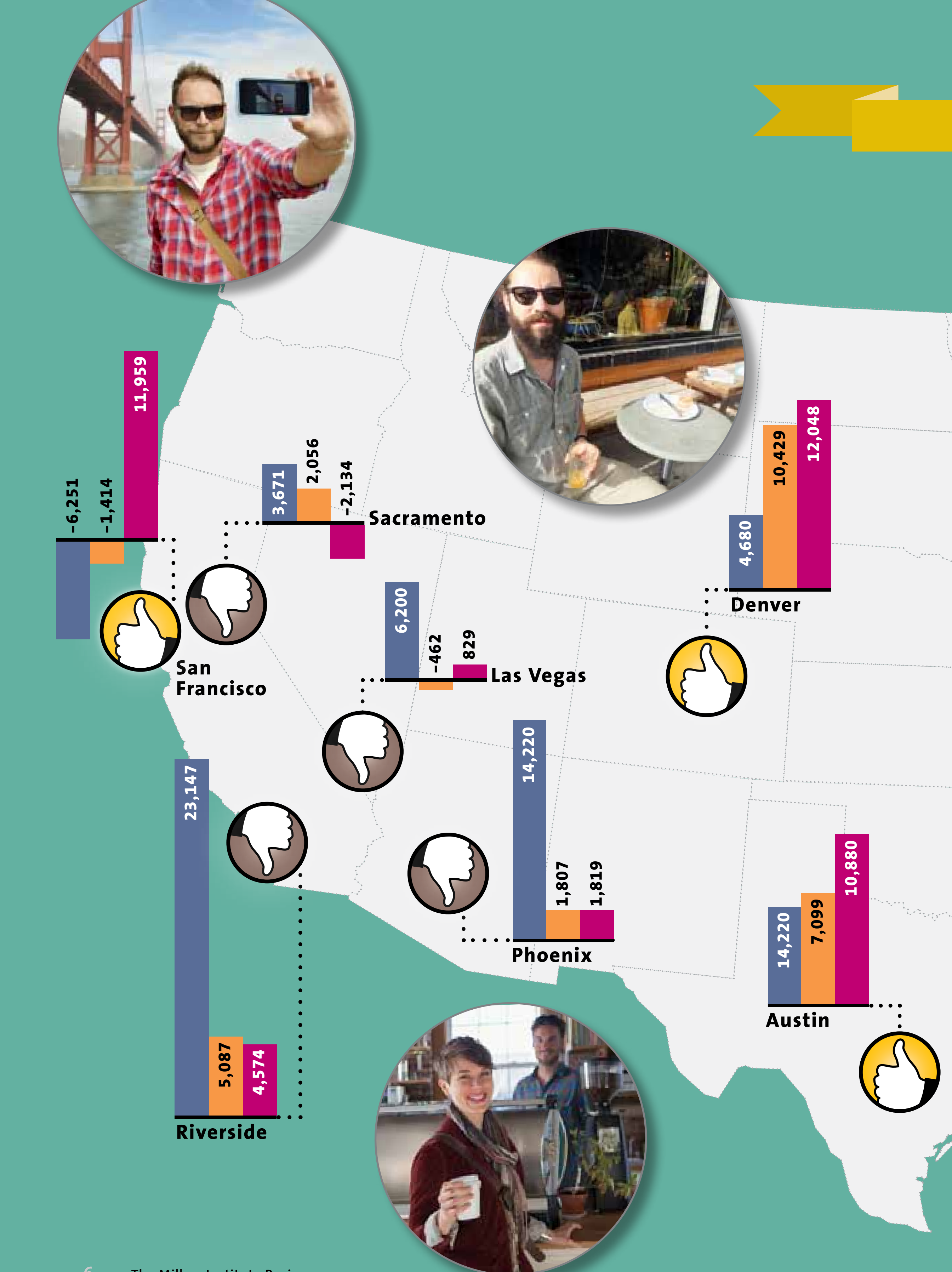
But those who do move apparently no longer feel obliged to slink off to places with the cheapest housing or the most openings for minimum-wage jobs. Before the recession, young adults made a beeline for easy-mortgage boom areas like Riverside and Phoenix in the West, and Atlanta and Charlotte in the Southeast.

But as the housing and job markets collapsed, each of these areas dropped out of the top five, with Riverside moving to number 8, Charlotte to 10, Phoenix to 17 and Atlanta to 23 among the 51 largest metros. (Las Vegas dropped 25 places to 35th.)

Aside from Houston, most of the major magnets for young adults now score high on your standard hip, amenity-rich, places-to-live surveys. The list includes well-known havens for latte-sippers – among them, Denver, San Francisco, Austin, Washington, DC, Seattle, Portland and Minneapolis-St. Paul.

To be sure, several of those magnets are high-tech, new economy bastions as well, offering good jobs to skilled creatives. But these migration numbers include all young adults, irrespective of education. This suggests that, until a broader spectrum of jobs become available, a high quality-of-life environment to be shared with other millennials might be the best place to bide their time.

BILL FREY, a senior fellow at both the Milken Institute and the Brookings Institution, specializes in demography.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Austin
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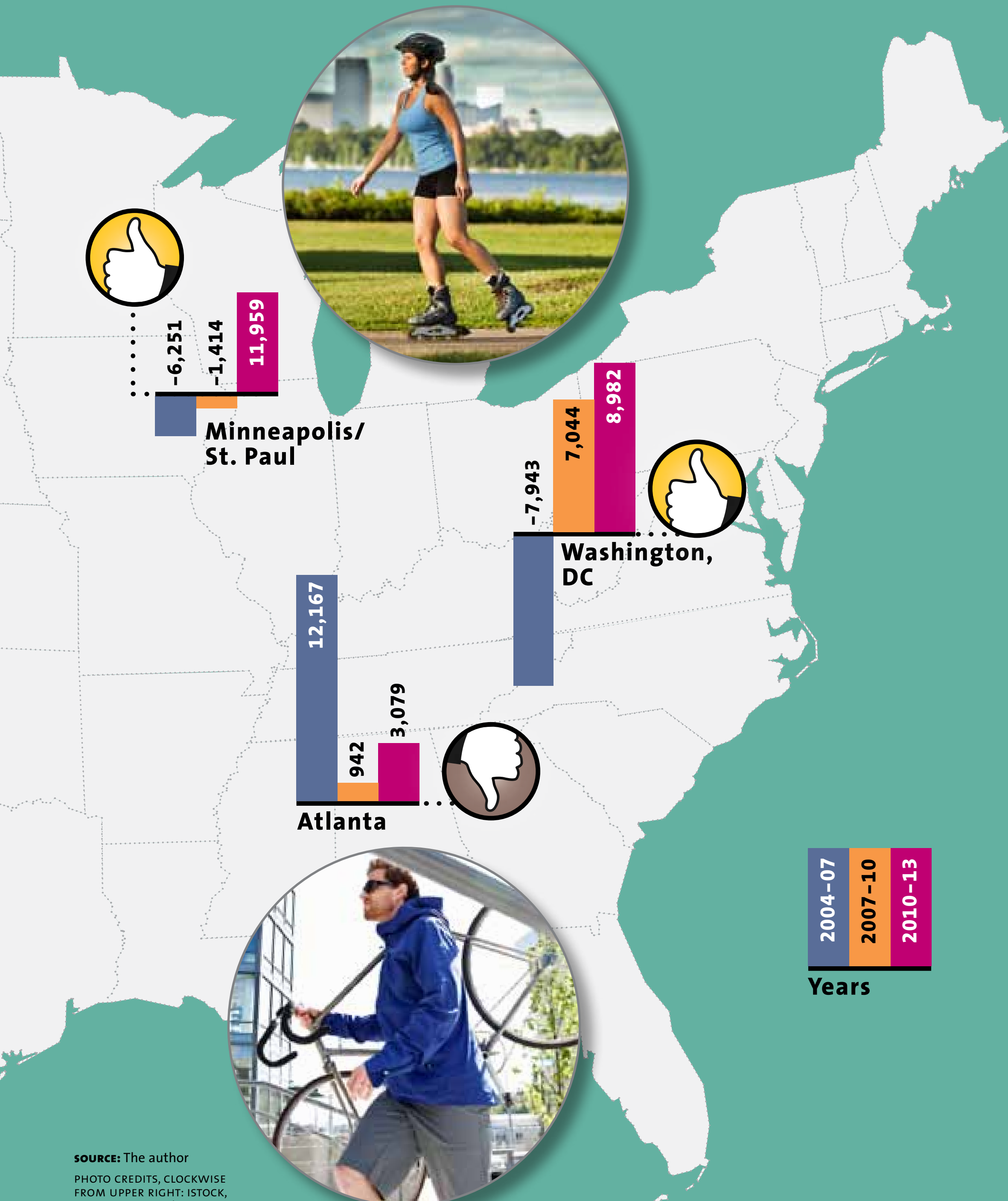
CONSOLATION PRIZES



SOURCE: The author

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BY BEN BLAND

Listening to the boosters in government and at international management consultancies, it is easy to become convinced that Indonesia's rise as a global economic powerhouse is unstoppable. The economy is already the world's tenth largest in terms of purchasing power. Meanwhile, Indonesia's consuming class is forecast to double by 2020 as poverty shrinks, assuring the country will become an increasingly important market for multinationals.

The recent election of reform-minded Joko Widodo, the first businessman to become president of Indonesia, has crystallized optimism about Southeast Asia's biggest economy. But there is another side to this story: Give an ear to Indonesia's (still numerous) critics and you might think that it is equally likely to become the latest victim of what economists have dubbed the "resource curse," with corrupt oligarchs thriving off rent-seeking, foreign investors ready to flee at the first hint of instability and the poor doomed to more of the same.

From Brazil to Vietnam, emerging market countries struggle to live up to the grand expectations of starry-eyed global investors and self-congratulatory governments. However, the problem is particularly acute in Indonesia, argues Chatib Basri, who stepped down from his post as finance minister in October when the new government took power.

A forthright economist with a fondness for pithy dictums, Basri used to tell investors that Indonesia "always disappoints." "We disappoint the optimists, but we disappoint the pessimists too," he quipped. And the events of the past decade underline this propensity to muddle through.

When former president Susilo Bambang Yudhoyono was elected in 2004, the economy had only recently recovered from the devastations of the 1997-98 Asian financial crisis, and many feared that a succession of regional conflicts could turn the world's biggest Muslim-majority nation into a Balkanized mess. Happily, these pessimists were proved wrong. Yudhoyono presided over a decade of political stability that allowed democracy to settle in (the long-ruling autocrat Suharto had only fallen in 1998). The economy grew at an average of 5.8 percent per year between 2004 and 2013 – short of Asian-tiger rates, but fast enough, for long enough, to nourish a burgeoning middle class.

The feather for Indonesia's cap arrived in 2011 and 2012, when the ratings agencies Fitch and Moody's upgraded Indonesia's sovereign debt to "investment grade" – a symbol for many investors, foreign as well as domestic,

BEN BLAND is the *Financial Times'* correspondent in Indonesia.

President Joko Widodo after his inauguration.

ASSOCIATED PRESS/DITA ALANGKARA

that Southeast Asia's biggest economy was finally getting the attention it deserved. Yet, while billions of dollars' worth of investments were pouring in from Singapore, Japan, China, Europe and the United States, beneath the surface all was not well. The boom had papered over deep structural problems: endemic corruption, woefully inadequate physical infrastructure, uneven law enforcement and underinvestment in health and education. Indeed, the World Bank's Ease of Doing Business index ranks Indonesia 114th, behind undistinguished competitors including Nepal, Ukraine and the Kyrgyz Republic.

Growth, it is now clear, was fueled by an unsustainable mix of domestic consumption and China's appetite for commodity imports.

Growth, it is now clear, was fueled by an unsustainable mix of domestic consumption and China's appetite for imported commodities. Indonesia became the world's biggest exporter of coal for electricity generation and palm oil for use in everything from shampoo to instant noodles. Together with other commodities, notably rubber and tin, natural resources make up around 60 percent of Indonesia's exports. So when the Chinese government reined in its economy's breakneck expansion, Indonesia was shaken.

The IMF estimates that each percentage point fall in China's GDP growth rate cuts as much as 0.5 percentage points from the corresponding figure for Indonesia. It's not surprising, then, that when China's growth eased from 10.4 percent in 2010 to 7.7 percent last year, Indonesia's pace of expansion slowed from a peak of 6.5 percent in 2011 to 5.8 percent in 2013. The World Bank forecasts the rate will slip again this year, to 5.2 percent.

What's more, the tides of Indonesia's growth have not carried all boats. An economy driven by buoyant commodity prices, along with highly profitable consumer goods and real estate sectors, is not structured to share the benefits of growth evenly. Indeed, as measured by the Gini coefficient (a commonly used index of inequality), between 1990 and 2010 Indonesia saw the biggest increase in income inequality in Asia outside of China.

While tens of millions have risen above the government's modest definition of poverty, more than 40 percent of the county's 250 million people still live on less than $2 a day. Even in the economic heartland around the capital Jakarta, many are without access to good jobs, clean water and adequate nutrition.

More striking yet, Indonesia has actually gone backward on important development indicators. Some 37 percent of Indonesians under the age of five are stunted (pathologically short for their body weight) because of bad diets and a lack of health care. That is up from 28.5 percent in 2004. Today, Indonesia fares worse by this measure than wretchedly poor Myanmar, which limps along at a fraction of Indonesia's GDP per capita.

Cristobal Ridao-Cano, an economist in the World Bank's Jakarta office, calls this a "national emergency." Not much, he notes, can be done after a child's first thousand days of life to reverse the brain damage caused by malnutrition.

The changes needed to reduce malnourishment are much the same as the ones that investors want to see: better infrastructure, higher quality health and education services, and smoother coordination among government ministries and between the central and

Harvesting palm fruit for processing.

REUTERS/Y.T HARYONO. INSET: REUTERS/CRACK PALINGGI

local governments. But while laying out what needs to be done is easy, getting from here to there is not.

THE ELUSIVE OPENING

Gustav Papanek, president of the Boston Institute for Developing Economies (a private consulting firm), has been advising Indonesian governments on economic policy since the 1960s. Papanek argues that Indonesia is now facing a "once-in-a-century" opportunity, an inflection point of sorts at which it can either buckle down for economic reform and ensure substantial growth for decades to come or languish near the low end of middle-income status.

Global consumer goods makers may be giddy with anticipation at conquering a huge new market, but Papanek is more concerned about the two million youths entering the workforce every year. "If there are not enough jobs for them, this demographic dividend will turn into a demographic disaster," he says.

Around 60 percent of Indonesians already work in what economists euphemistically call the "informal" sector, hawking noodles on street corners and fixing flat tires at makeshift garages, far from the view of the government bureaucracy. The work is usually low-paid and insecure. But Papanek's latest analysis, "The Economic Choices Facing the Next President," underwritten by Transformasi, a business-oriented think tank in Jakarta, concludes that Indonesia has a window in which it can fix this problem by attracting international manufacturers who are leaving China in search of cheaper labor.

To reel in these prospects, however, Indonesia will have to boost its competitiveness significantly by revamping ailing infrastructure, reforming byzantine labor laws and lowering the myriad other costs of setting up and running businesses. According to the World Bank's Ease of Doing Business index, Indonesia now ranks a miserable 153rd out of 189 countries in ease of obtaining construction permits and a ghastly 172nd in facility in enforcing contracts. It should not be surprising, then, that in the race to fill the manufacturing vacuum left by rising costs in China, Indonesia is already losing out to the likes of Bangladesh and Vietnam, which offer lower wages and/or a friendlier business environment.

The window of opportunity is narrowing, with minimum wages having already risen sharply in the greater Jakarta area and trade unions pushing for further increases to offset the high cost of living in and around the capital. The average monthly wage for a factory worker in Jakarta is around $240, not far behind China's ($328).

Prospects are better for Central Java, where the average wage is still only $120 a month. That wage advantage has prompted Pan Brothers, a big Indonesian garment maker, to expand its manufacturing base rapidly in this province of 33 million, investing in seven new factories in a joint venture with Mitsubishi, the Japanese trading house.

But Central Java's attraction as a place from which to export clothes produced for Adidas, Nike and Uniqlo depends as much on infrastructure as wages. A new toll road from Pan Brothers' factories in Boyolali to the nearest port, Semarang, should help when it is completed in the next year or two. Unfortunately, though, the infrastructure bottlenecks don't end there.

The state-owned port operator at Semarang has tried to improve efficiency and reduce ship dwelling times as the volume of

REUTERS/ENNY NURAHENI

container cargo – mostly garment exports – increases. Still, once a day road access to the port is cut by tidal seawater incursion, and during heavy rains last January it was inaccessible for a week. Meanwhile, the agency that runs the port is powerless to fix the problem without the cooperation of local government.

This problem of overlapping jurisdiction – and competing bureaucracies and vested interests – stymies many infrastructure projects across Indonesia. Elsewhere in central Java, a plan to build a $4 billion, Japanese-funded coal-fired power plant at Batang deemed vital to meet the region's ballooning energy needs has stalled for two years because of disputes over land acquisition. No one from the central or local government has so far chosen to use political capital to force through a solution.

The list goes on. Outside Medan, Indonesia's fourth-biggest city, a shiny new $500 million airport has been built, showcasing the best of Indonesian architecture and construction. The only catch: the government has yet to build a highway connecting it to Medan, thanks once again to disputes over land ac-


REUTERS/SUPRI

quisition and interdepartmental wrangling over jurisdiction.

TALES FROM THE TWO INDONESIAS

In economic terms there are, in effect, two Indonesias. One is composed of the fast-growing middle class, which is buying apartments and cars, sending its children to university, and paying for private health care. Boston Consulting Group, a management consultancy, predicts that this nascent consuming class will double to 140 million people by 2020.

To see this Indonesia, drive about an hour (two in traffic) west of central Jakarta along the toll road to the port of Merak. When you spot the familiar blue-and-yellow logo of Ikea, the world's biggest furniture retailer, you have arrived.

Situated in Alam Sutera, a privately developed satellite city, this is the furniture giant's first store in Indonesia. Business has been brisk since it opened in October, as Indonesian families have rushed to kit out their homes with flat-pack shelving and funky Swedish-designed lights with made-up Scandinavian names. No wonder: Mark Magee, Ikea's general manager, estimates there are 9.5 million people in greater Jakarta who can afford to shop at Ikea – the same number who live in all of Sweden, where there are 19 stores.

The inhabitants of Alam Sutera (and other satellite towns springing up around major Indonesian cities) live in their own prosperous, hermetically sealed world, with paved roads, access to clean water, private schools and health care. The hope has long been that the success of this emerging middle class would "trickle down" to those at the bottom. But this is happening far too slowly where it's happening at all.

To see the other Indonesia, drive about an hour east of central Jakarta to a place called Bantar Gebang. When you are close, you will know by the smell. Here, 40-year-old Rastinah, her family and the members of 1,500 other households experience trickle-down economics Indonesian-style, eking out a living as scavengers on one of Asia's biggest landfills. And they do not just work here; they live amid the rotting mountains of rubbish.

Laboring with her husband and two young children, Rastinah (who like many Indonesians goes by only one name) earns around $180 a month picking and selling plastic and cans for recycling. That is barely enough to survive, and certainly not enough to ensure that her children can finish primary school. Only 40 percent of the children at the local school get to the sixth grade, with many of their parents pulling them out early to join them for toil on the trash pile.

Many of the families are stuck in a cycle of poverty and lost opportunities. Rastinah did not complete her education because she had to work with her parents. She wants her children to finish school and have a better life. But she is already drafting her 12-year-old son to help find the recyclable material in the perilous gaps between the Komatsu machinery that shapes the ever-growing mountain at Bantar Gebang.

ENTER THE FURNITURE MAKER

If anyone can unite the two Indonesias and help the country deliver on its promise, it should be President Widodo, whose remarkable rise from obscurity has been compared to that of Barack Obama. Having grown up in a riverside shack and worked to improve the lives of slum-dwellers as mayor of Solo (a city of half a million) and then as governor of Jakarta, he says that he understands the struggles of the poorest Indonesians.

By the same token, the other, upwardly mobile Indonesia can identify with his success: He transformed his family's small carpentry business into a furniture-exporting factory. As he told a group of investors during his hard-fought election battle against former general Prabowo Subianto, "I may have the face of someone who comes from the village, but I have an international brain."

The first president to come from outside the narrow political and military elite, he was swept into power because of his down-to-earth style, corruption-free reputation in a corruption-ridden society and track record of getting things done. Since he took office in October, the 53-year-old and his team have reiterated a campaign pledge to accelerate economic growth to 7 percent. And in November, he implemented his first concrete reform toward that end, nearly halving the $20 billion-plus fuel subsidy program that is both wasteful and ferociously regressive and vowing to reallocate the reclaimed funds to social security and infrastructure.

Constrained by the fact that his political party – the Indonesian Party of Democratic Struggle – controls less than one-fifth of the seats in the parliament, Pres. Widodo has had to compromise on his ministerial selections. But he did manage to include a few mavericks hewn in his own image. Chief among them are transport minister Ignasius Jonan, an acerbic former investment banker at Citigroup who turned around the failing national rail company, and fisheries minister Susi Pudjiastuti, a tattooed, chain-smoking high school dropout who founded her own airline to serve Indonesia's remote islands.

Those who know Widodo well agree that he is likely to move slowly but surely to implement his ambitious reforms, taking time to canvass multiple views before acting. But time is fleeting. Wijayanto Samirin, an economic advisor to Vice President Jusuf Kalla (the seasoned politician who became Widodo's running mate), argues that the new government has a honeymoon period of perhaps a year in which it will have the political capital to push through unpopular reforms like hiking the heavily subsidized fuel price. If it does not move quickly, public support will dissipate, and Pres. Widodo's political opponents, who control the majority of seats in parliament, are likely to become emboldened.

In addition to pressing for improved infrastructure and streamlined regulation, international investors hope that Widodo will buck the trend toward economic nationalism stoked by the Yudhoyono government. Widodo's predecessor oversaw the introduction of a succession of protectionist measures designed to appeal to populists and to shore up support from homegrown crony capitalists and their allies in the bureaucracy. The trend won't be easy to reverse.

Despite this and the slowing growth rate, international investors remain supportive.

That is crucial, because the recent fall in the value of Indonesia's commodity exports exposed a structural shortfall in Indonesia's foreign currency account (forecast at about 3 percent of GDP this year) that leaves the country reliant on huge amounts of foreign capital to cover the deficit in trade.

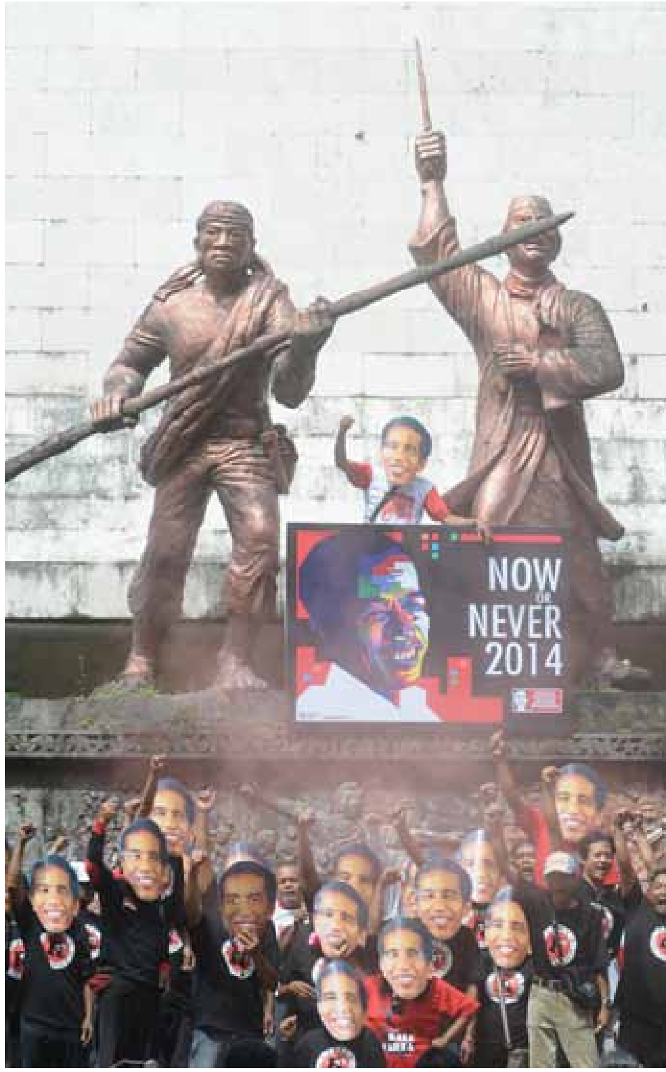
Foreign investors from Ikea to the Spanish bank BBVA have continued to storm the ramparts. The large, growing economy is still very attractive to corporate investors, especially compared to the stagnant Eurozone and faltering emerging markets from Brazil to Russia and South Africa to Turkey. As Indonesian private equity guru Gita Wirjawan once told querulous foreign investors when he was the trade minister, if they were leery of Indonesia, they were free to put their money in Afghanistan or the Democratic Republic of Congo.

Without reforms, Indonesia can probably continue to attract investors and grow at 5 percent a year through mere inertia. But the 100 million poor Indonesians, who have seen their incomes rise by just 1 percent annually over the past few years, will be left behind unless Indonesia moves to a broader-based growth model that creates quality jobs and drives innovation.

One senior Asian diplomat who met Pres. Widodo recently said he was impressed by his no-nonsense style. But he worries that Indonesian policymakers have misunderstood the examples of the Asian tigers like South Korea and Taiwan, which transformed their economies in a generation through export-led manufacturing. "They know they need to upgrade [the business environment], but they always try to force investors to do things, rather than offering them incentives," he says. "That's why many manufacturers who have been leaving China have been going to Vietnam rather than coming here."

To escape from its current predicament, Indonesia will have to move from "rhetorical nationalism to substantive nationalism," argues Jeffrey Winters, a political scientist at Northwestern University, in the introduction to Papanek's recent study. "Indonesia will not be able to achieve rapid gains in prosperity without embracing the international world and engaging international actors."

If Indonesia is to stop disappointing the optimists, now may be the best time, according to another favored adage of Chatib Basri, the former finance minister. "The good times," he notes, "make for bad policy, and the bad times make for good policy."



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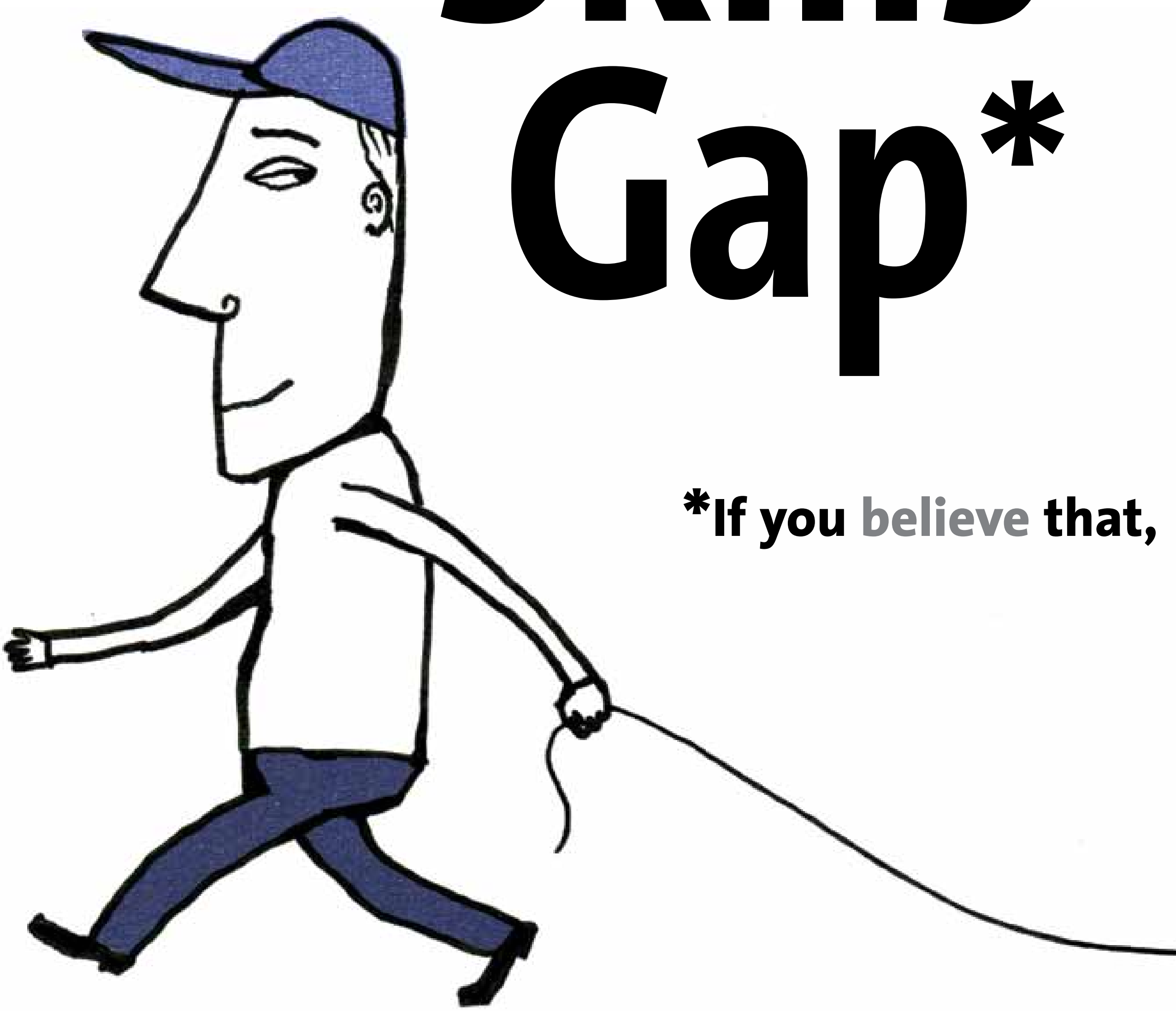
THERE IS A Skills Gap*



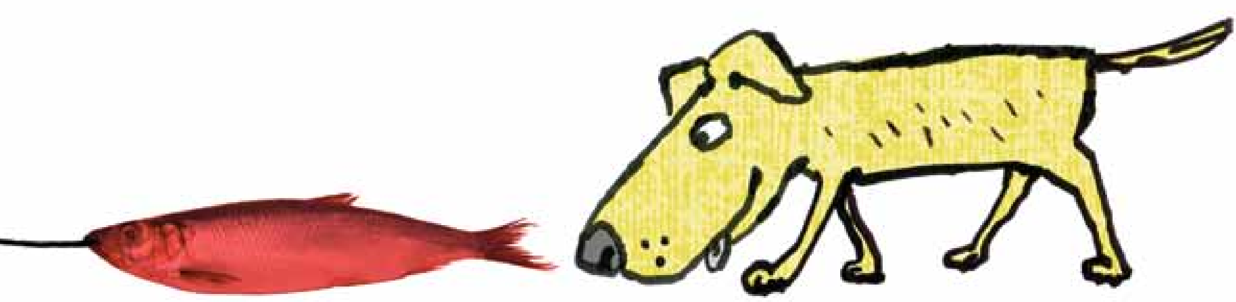
***If you believe that,**

The idea that there are widespread problems with the supply of skills in the United States is widely accepted, driven not only by stories from employers who say they cannot fill vacancies but also by detailed reports from business associations – and even organizations lacking a direct stake in the issue, like the National Academy of Sciences. The Obama administration's recent call for more job training so that applicants can get the skills to fill these jobs only reinforces the point.

Tales of jobs gone begging should stir some skepticism, though, as they have increased since the 2008 Great Recession, years in which the numbers of unemployed (most of them recently employed) far exceeded job openings. Nor is there indirect evidence of shortages in ways we might expect it, such as in rising wages. Instead, the claims are based on surveys of employers, who say they have difficulty hiring the workers they want. These laments tap into common beliefs about the shortcomings of American education – that students are opting for irrelevant majors in college, and so forth. The reports' recommendations invariably include increasing immigration quotas and redoubling efforts to inform college students of the consequences of their curriculum choices.

you've been diverted from the real issues...

BY PETER CAPPELLI



Such reports have had a powerful influence on public debate about the competence of American workers and the adequacy of high schools and colleges. Virtually all of them are framed in terms of concerns that the economy as a whole is suffering. But it is difficult to escape the fact that the conclusions are largely drawn from sources with a material interest in labor and education policies. And a closer look raises serious questions about their validity.

FRAMING THE PROBLEM

The arguments that skills are wanting take various forms. The most extreme complaint is that there are widespread shortfalls in the basic skills of future employees. The problem is usually attributed to the failure of American education, especially K-12 public education, to meet its responsibilities. We refer to that alleged problem as the "skills gap." A second complaint focuses on specialized skills, such as the familiar assertion that the U.S. is short on engineers or information technology specialists. We refer to that as the "skills shortage." The final concern, more common outside the United States, is that at any given time, the supply of and demand for specific skills is out of synch. We refer to that as the "skills mismatch."

Employers in the postwar era typically selected employees for general abilities at entry-level positions, then trained them over a working lifetime to meet the employers' needs. The recent assertions about skills problems have quite a different underlying model in mind, although it is typically unstated. Job candidates' skills, which are either adequate or not, are supposed to arrive with the applicants. It thus follows that a key goal for public education is to provide graduates with the skills employers want.

REPORTS OF SKILLS GAP AND SKILLS SHORTAGES

Concerns about the supply of skills in the United States are hardly new. Their contemporary roots go back to the post-Sputnik 1958 National Defense Education Act, which increased funding for science and engineering education in an effort to compete with the Soviet Union. The idea that schools were failing became popular with the National Commission on Excellence in Education's 1983 report, *A Nation at Risk*. But during the 1980s and 1990s, the dominant view remained that providing job-related skills was the responsibility of employers.

Discussions in the 2000s changed direction sharply, beginning with the consultant-driven idea that the U.S. economy was facing an overall shortfall in the supply of labor. Despite the absence of any evidence, the Society of Human Resource Management reported that large numbers of employers were preparing for a labor shortage predicted by 2010.

More common than the overall-labor-shortage view was the idea that there would be a shortage of college-educated workers. The President's Council on Jobs and Competitiveness, a business-led group, claimed that the country would be short by 1.5 million graduates by 2020. Others narrowed their concerns to a projected shortfall of science, technology, engineering and math (STEM) graduates. The Department of Commerce concluded that the United States would need to expand both immigration and education to meet skills shortages in IT as early as 1997 – a conclusion that was almost immediately contradicted by what

PETER CAPPELLI is the George W. Taylor Professor of Management at the Wharton School and director of Wharton's Center for Human Resources. A more technical version of this article is forthcoming in the *ILRReview*.

PREVIOUS PAGE: ROGER CHOUINARD

Studies that survey recruiters rather than higher-level executives conclude any shortfalls in new graduates are related to poor workplace attitudes, not classroom skills – and those complaints haven't changed for decades.

was then the U.S. General Accounting Office. No matter; the National Academy of Sciences produced six separate reports related to STEM-skills issues just in 2012, many about expanding the supply.

Few reports countered the skills-shortage idea. But those that did had the evidence on their side – pointing out, for example, the fallacy of assuming that every job using STEM skills required a STEM degree. In fact, few computer programmers have bachelor's degrees in computer science. Moreover, roughly half of recent engineering graduates do not take jobs as engineers, either because they cannot not find such jobs or because the ones offered pay less than alternatives in other fields. Many of the employer-based reports also offer contradictory evidence – for example, citing survey respondents who admit they are unwilling to offer wages that are high enough to attract the candidates they want.

Studies that survey recruiters rather than higher-level executives also reported something different than the skills-gap notion. Their consistent conclusion: any shortfalls in new graduates are related to poor workplace attitudes, not classroom skills – and those complaints haven't changed for decades.

Academic research on these questions, by contrast, has been sparse. Much of it focuses on the more general question of whether skills requirements are rising. Here, the consensus is that overall requirements have been trending upward in recent decades, albeit slowly. In 2006, Stephen Vaisey, a sociologist at Duke University who compared educational qualifications to the educational requirements of jobs, found that average American workers were overqualified for their jobs and that the degree of over-qualification had

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been increasing. Other studies found that the changes in skills requirements for the average U.S. job over the past 40 years have been small – and, most surprisingly, there has been no increase in STEM-skills requirements. Meanwhile, the evidence that individuals lose by being overqualified for their jobs is overwhelming, while the evidence that companies benefit from employing overqualified workers is modest at best.

A different set of claims asserts that the economy or the labor market has changed in ways that have altered the balance between the supply and demand of skills. Edward Lazear, an economics professor at the Stanford Business School, and James Spletzer, a Census Bureau economist, examined that argument and rejected it. Yet such claims continue to be made.

Among the most puzzling claims: the President's Council on Jobs and Competitiveness (among others) asserted that the presence of vacancies is evidence that jobs cannot be filled. The standard view, of course, is that vacancies prove only that time is required to post the job advertisement, collect applications, process them and hire someone. Deloitte, the consultants, claimed in 2011 (on behalf of the National Association of Manufacturers) that 600,000 good jobs in U.S. manufacturing couldn't be filled for lack of qualified applicants – an astonishing figure given that the Bureau of Labor Statistics found only 220,000 total vacancies in manufacturing during the year Deloitte made the estimate. By contrast, Paul Osterman at M.I.T. and Andrew Weaver at Indiana University recently found that two-thirds of manufacturing employers report no vacancies, and only one-quarter have had vacancies open long enough to suggest there was difficulty in filling them.

A different question, which gets closer to the heart of any skills question, is whether vacancies are taking longer to fill now than in the past. The Beveridge Curve offers indirect insights into the question by capturing the relationship between the unemployment rate and the number of job openings as a proportion of the labor force. Jobs that stay open get counted again in each estimate, so a change in the length of time required to fill jobs would cause an apparent outward shift in the curve.

Regis Barnichon and his colleagues at the Brookings Institution found that the Beveridge Curve did, indeed, shift after the Great Recession in 2009 and that the shift was caused by a decline in hires per vacancy expected at the relevant level of unemployment. Many factors could account for that decline, such as greater hiring of those already employed elsewhere (which generates no net employment gain) and a decline in filling vacancies from within (which expands the vacancy

It would be wrong to assume that typical high school graduates are identical to average college graduates except for education and that the former would make the same wage as the latter if they had college degrees. Yet that assertion is commonly made.

rate). Stephen J. Davis, an economist at the University of Chicago, and his colleagues, for their part, found that recruiting effort per vacancy has fallen. This change in the Beveridge Curve, the cause of which remains unclear, is, in the end, the best evidence that something has indeed changed in the labor market.

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Among the most-cited evidence about the demand for skills is the finding that the difference in pay between the average college graduate and the average high school graduate has changed. That wage premium was rising in the 1980s even as the relative supply of college graduates rose, suggesting that there was a shift in demand toward more-skilled and more-educated workers.

But since the 1980s, evidence of a continuing shift has not been as compelling. Indeed, some studies conclude that the demand for skills that require college degrees is actually declining and that college graduates are forced to look to jobs that require less talent as a result. In the process, they bump the applicants without college degrees, who end up with even lower-skilled jobs or none at all.

On average, college graduates make more money than high school graduates, but what we make of that fact should be considered carefully. Because the premium represents the difference in average wages, it is not necessarily representative of the experience of new hires – nor predictive of the future college premium. And strikingly, the premium appears to have declined during the Great Recession, falling from 69 percent to 63 percent between 2008 and 2011.

College graduates are different from high school graduates in ways other than educational attainment, and those differences also affect the premium. It would be wrong to assume that typical high school graduates are identical to average college graduates except for education and that the former would make the same wage as the latter if they had college degrees. Yet that assertion is commonly made.

The college premium has also been influenced by factors that have nothing to do with the demand for college graduates. The decline of unions, for example, pushed wages down disproportionately for high school grads, thereby increasing the college premium from the other end. The education-mismatch literature also shows that the wage premium from a college degree comes mainly from getting access to jobs that require college-level skills. College graduates in jobs that require only high school skills earn little more than high school graduates doing the same work. In the eyes of coffee-shop managers, it seems that a barista is a barista, with or without a degree in civil engineering.

That should remind us of the fallacy of composition: it may make sense for an individual to secure a college degree in hope of snagging a job that requires college skills. Whether it makes sense for society as a whole to send a higher percentage of high school students on to college expecting that they will all earn that same premium is questionable.

STUDENT ACHIEVEMENT

The assertions about student achievement (or, rather, the lack thereof) that get the most attention are those that cast the blame for skills gaps on public education. The argument is that American students are not learning as much as those in other countries, although how this should create a mismatch with job demands is not completely clear. The latest data show that the United States is in the middle of the country rankings on student achievement. Moreover, Tom Loveless of the Brown Center on Education Policy notes that there is no statistically significant difference between U.S. scores and those for countries several positions higher in the rankings. Further, Loveless points out that the United States' ranking has not been declining relative to other countries.

The fact that Asian countries (Singapore and Korea) and Chinese cities (Hong Kong and Shanghai) have risen to the top ranks has received considerable attention. What is not clear, though, is how much credit for those high scores should go to their schools, since roughly two-thirds of their students also attend after-hours tutoring (often at great cost).

The newest and most powerful evidence on skills across countries comes from the OECD's Program for International Assessment of Adult Competencies. It compares workers' skills – literacy, numeracy and problem-solving in an IT context – rather than students' skills. It is assessed directly with tests of representative, random samples of the workforce from each country. And here, the United States ranks 17th in literacy, 22nd in numeracy, and 14th in problem-solving out of 24 countries participating, far below average and much worse than our students do in international comparisons of academic achievement. A related assessment of the U.S. position comes from a recent study of the wage premiums associated with the Program for International Assessment of Adult Competencies skills data. It finds the highest skills premiums are in the United States, which is consistent with the hypothesis that these skills are in short supply compared to other countries.

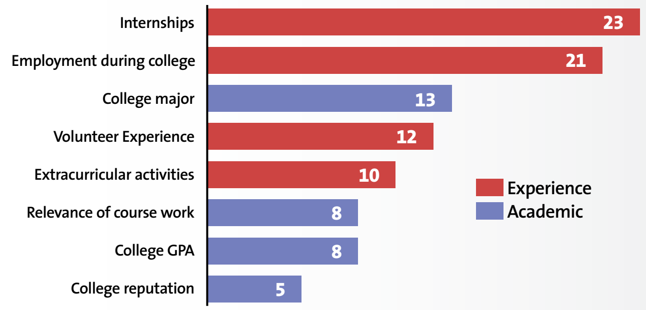
Academic preparation, completed decades earlier for the average respondent – cannot explain these poor skills showings of U.S. workers. As the OECD program's authors note, the United States has a more-educated workforce than average and the relative position of U.S. student achievement is much higher than its position in worker skills. Thus, something appears to be happening to students' reading and

EMPLOYER PREFERENCES FOR APPLICANT ATTRIBUTES

RELATIVE IMPORTANCE OF QUALITIES IN EVALUATING GRADUATES FOR HIRE (SCALE OF 0–100)

Q: How much weight do you give each of the following educational credentials when you evaluate a recent college graduate's resume? How much weight do you give each of the following types of experiences when you evaluate a recent college graduate's resume to see if further discussions are warranted? (weighted by importance of academic performance vs. experience on hiring of recent graduates to obtain an aggregate score)

SOURCE: Chronicle of Higher Education (2012)



numeracy skills after they leave school that is different from what is happening elsewhere.

Something appears to be diminishing the abilities of U.S. workers relative to those in other countries, such as less workplace training to keep their skills sharp. Another possibility relates to immigration differences. On average, immigrants to the United States score less well on cognitive skills than immigrants to other countries do. So the addition of relatively large numbers of low-skilled immigrants to the workforce may lower average U.S. skills scores.

The Program for International Assessment of Adult Competencies also asked employers about the hiring criteria (academic degrees and similar credentials) in their current jobs and compared them to their employees' qualifications. Hiring criteria are not identical to job requirements, of course, and we would expect employers to be choosier in a buyer's market, as they have been in recent years. Compared to the average across OECD countries, more U.S. workers believe that the skills needed to perform their jobs are actually greater than the current hiring requirement (12 percent vs. the 7 percent OECD average). But far more U.S. workers believe that the actual requirements are lower than the hiring requirements.

The number of college graduates produced is not declining in the United States, or even declining relative to other countries. Bachelor's degrees granted increased by 31 percent in the decade following 2000-01, while associate's degrees increased by 62 percent even as the population grew by just 11 percent. (It's true that the United States does not lead the world in the percentage of college graduates in the population. But it hasn't for some time: Russia, Canada, Japan and Israel are all ahead in that regard.)

WHAT'S REALLY GOING ON HERE?

U.S. employer-led complaints about skills (broadly defined) are not new. Manufacturers have been complaining that they faced skills shortages and have periodically issued dire warnings about future skills problems, all of which amounted to crying wolf.

What the complaints from employers about skills problems might actually mean remains elusive because employer-driven studies have been so poorly designed. It is also difficult to know if there is really anything new to their complaints, given that we do not have similar data from earlier periods. Whatever the reality, it is important to recognize that few of the complaints apply to those just leaving school, since the vast majority of the workforce—and an even larger percentage of new hires (given employers' preference for experienced applicants – left school long ago. Concerns directed specifically at post-school applicants focus on maturity, not academic skills.

One explanation for the greater visibility of complaints is that it is a by-product of the broader rise in business lobbying intended to influence public opinion and government policy in ways that benefit employers. Employer complaints in the IT sphere, for example, go hand-in-hand with lobbying efforts to increase access to skilled foreign workers through the expansion of the H-1B quota for visas for such employees. The basic conflicts between labor and management are not far from the surface in many of these exchanges, with employer groups aiming to increase the pool of applicants who will accept lower wages, while organized labor argues for the opposite.

The reports on skills problems from consulting firms are also consistent with a self-serving explanation: their business models are rooted in helping business clients address perceived problems. Highlighting or even asserting problems and then offering solutions to them are common practices. The firm HR-Marketer, which provides advice on how to sell consulting services to human resources departments, opens the door to a related explanation. The firm recommends that vendors produce white papers and other reports addressing big questions in order to build credibility with clients. And one of the questions targeted is the asserted shortfall of talent.

Alternatively, the rise in such employer complaints might reflect something real, even if it is not caused by changes in the supply of skills. Hiring may well be more difficult now simply because employers have to do much more of it because substantial declines in average employee tenure translate into more-frequent vacancies. The decline of lifetime employment practices and the associated rise of lateral hiring have been underway for some time, especially in larger organizations. The fact that the decline in tenure is disproportionately associated with larger firms, where promotion from within had been more common, may have an even bigger effect on hiring if it undermines promotion-from-within systems or is a marker for their decline. When employees who have been promoted from within leave unexpectedly, it may be difficult to fill their jobs from within because no internal candidates may be ready for advancement.

A decline in promotion-from-within systems also increases hiring challenges substantially by expanding the range of skills that must be recruited. Most hiring is no longer at the entry level, where skills requirements are modest. Now, virtually every position is potentially filled by outside hires. Indeed, one proprietary survey of employers found that 72 percent of their positions were filled from the outside in 2007.

Few employers' reports of skills problems ask what it is employers are looking for in candidates that they cannot find, but the evidence suggests that it is work experience. Work experience is the crucial attribute that employers want – even from fresh graduates who have yet to work full-time. Course work, in contrast, is just not that important.

Credible evidence on employer-provided training in the United States is remarkably hard to come by, especially for recent decades. The data we do have suggest that in 1979 young workers received on average about 2.5 weeks of training per year. In 1991, Census data found only 17 percent of all employees reporting they received any formal training that year. Several surveys of employers around 1995 indicate that where training was provided, it averaged under 11 hours per year.

(The most common training topic was workplace safety.) Those figures, by the way, include what vendors provide when they bring in new equipment – as in, "Here's how to work this copier."

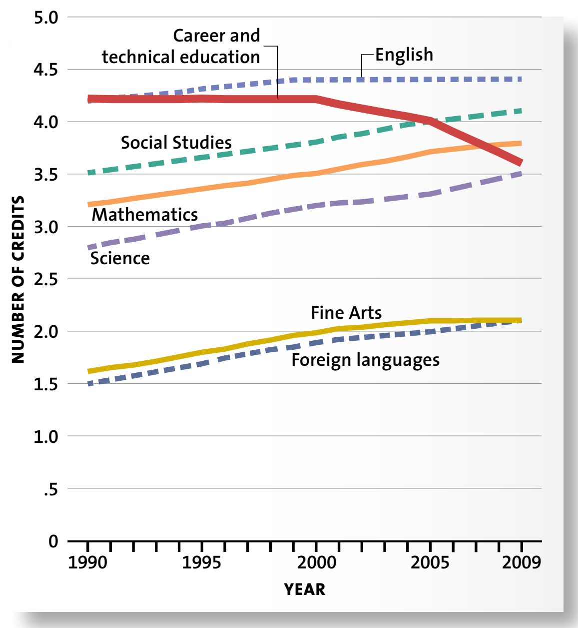
The above data are now almost 20 years old, and there is little new from government sources. In 2011, Accenture, the management consulting firm, surveyed U.S. employees and found that only 21 percent had received any employer-provided formal training in the previous five years.

The most important source of training for craft-based skills has long been apprenticeship programs. Data on these programs are scarce, but the Department of Labor's numbers show a sharp decline from 2002 to 2012 – from roughly 33,000 programs to 21,000 – and an even steeper decline in the number of apprentices – from roughly 500,000 in 2003 to 280,000 in 2012. The 50,000 or so annual graduates of these programs are a drop in the bucket in a labor force of 160 million.

Further, the quality of apprenticeship programs is not necessarily constant. In the construction industry, union-management joint-apprenticeship programs have been in decline, replaced by employer-based programs. Participants in the latter do not perform as well as those in the former, perhaps because employers are in more of a hurry to get the trainees into jobs, and because relatively large numbers of apprentices leave the employer-led programs before they complete them.

One area where employer complaints about shortfalls in the supply of skills have unique credibility is with craft skills. Vocational education programs in high schools used to be an important source of workers with basic trade skills. But beginning in 1990, vocational courses declined precipitously, especially in comparison to the rise in other subject areas.

HIGH SCHOOL CREDITS BY SUBJECT AREA



SOURCE: National Center for Education Statistics Career/Technical Education Statistics

Within vocational education curricula, "industrial arts," which includes skilled trades and other mechanical skills, declined even faster. The average number of credits taken per student in that subject area fell by half from 2000 to 2005. And the United States already had the lowest proportion of vocational education in secondary school education of any industrialized country. This appears to be the best evidence of something that has changed in the supply of labor to manufacturing.

A final explanation for employer complaints is the highly specific and idiosyncratic nature of contemporary hiring requirements. It is common to assume, for example, that a machinist's job calls for a reasonably standard set of skills, but that is no longer the case. If job requirements across employers are highly specific and highly variable, the supply of workers is much more constrained than one might expect when employers are trying to fill those positions by hiring rather than training.

By the same token, applicants may find it very difficult to determine which skills they should acquire before applying for work. In the absence of good information about jobs and mobility, they may find themselves skilled but unemployed – or at least underemployed.

An obvious solution to virtually all the skills problems reported by employers is to increase training and produce the skilled workers they want themselves. But employers often express the view that they cannot afford to train employees for fear that they will be hired away at higher wages, a textbook recipe for an inefficient labor market.

SO WHERE DOES THIS LEAVE US?

The dominant skills problem in the United States, as in most developed economies, continues to be mismatches in which workers have more education than their current jobs require. Persistent high levels of unemployment and stagnant wages reflect the fact that job seekers still outnumber openings. While it is certainly true that employers would benefit from a larger (and therefore cheaper) supply of labor, it is hardly clear the country as a whole would benefit – and any claims to that effect should be examined carefully.

To the extent employer complaints represent something new, the best explanation is changes in employer practices, notably the decline in training and internal development and the associated rise in outside hiring for skills. The view that emerges from the skills-shortage and skills-gap arguments is that employers believe the responsibility for developing the needed skills is now the responsibility of job seekers and schools – not theirs.

Schools are not suited to organize work experience, the key attribute that employers covet. Nor are they necessarily good at teaching work-based skills. Those skills are easiest and cheapest to learn in the workplace through apprentice-like arrangements that one finds not only in craft trades but also in fields like accounting and medicine.

At the post-secondary level, this shift in responsibility pushes risk onto students who pay tuition and give up earnings while they're in school. The employers who are calling for more STEM graduates, for example, are not offering to guarantee employment to students who are now starting such programs. Proposals like those in Florida would push students toward vocational majors by shifting state funds to college majors where employers say they want to hire (typically STEM fields) and away from majors where they do not. But governments are not particularly good at forecasting where jobs will be years in advance, and students and their families (along with taxpayers) would bear the costs when those forecasts are wrong.

If the labor market is not signaling students to pursue particular fields, does it make sense for government to take on the role? Manufacturers, for example, have long complained about the shortage of students interested in machinist-training programs, saying that guidance counselors were not advocating for those programs. But the pay for such jobs has declined by 20 percent in real terms over the past two decades, while the skills required for those jobs have shifted toward computer use – a field with better pay. Moreover, the number of machinists' jobs declined by 20 percent in that period, even as total employment rose by 40 percent, and is expected to decline further.

The reasons for the declining student interest in vocational education that could prepare them for manufacturing jobs merits further attention, but we should not assume that it is based on students' failure to read the incentives correctly. If the government cannot become the staffing agency for employers, are we faced with a future in which employers are frustrated because they cannot find the specific skills they want while job seekers (especially those just finishing school) cannot get the skills that employers really want because no one will give them initial work experience?

Some employers may yet see the advantage of training their own workers, even if competitors stand ready to hire them away. We know that employers can provide skills training at minimal risk if workers' incentives are structured appropriately. But assuming employers lack the will to try, are there alternative ways of solving the problem?

While it is certainly true that employers would benefit from a larger (and therefore cheaper) supply of labor, it is hardly clear the country as a whole would benefit — and any claims to that effect should be examined carefully.

The arrangements favored by the school-to-work movement in the 1990s may still have merit. In this model, the boundary between school and work was blurred. Employers helped schools to provide work-based learning that supplemented academic material and offered learning opportunities in the workplace that were not necessarily paying jobs. (Though, it should be noted that the Department of Labor has recently been cracking down on unpaid internships.) The employers' incentive to participate was the ability to identify promising students to hire before the students ever went on the job market, without investing heavily beforehand.

It is difficult to think of another labor-market issue in which rigorous research is so lacking, where parties with a material interest in the outcomes have so dominated the discussion, where the quality of evidence and discussion has been so poor and where the stakes are so large. The perspectives and interests of employees and students have been almost completely absent from these discussions. There has been little testing of the assumptions behind arguments, and the costs and benefits of various proposals have not been considered. Note, moreover, that this dismal state of affairs seems to be unique to the United States.

One factor that has discouraged relevant academic research has been the lack of data about skills. The standard classification of job requirements into "knowledge, skills and abilities" reminds us that education, which has served as a proxy for skills in most discussions, only maps onto part of the "knowledge" category, leaving the other attributes of job requirements out of the picture. There are many good reasons for concern about education, but seeing it as the equivalent of skills is certainly a mistake. And one of the unfortunate consequences of using education as the proxy has been to distract from training and on-the-job experiences.

A final lesson from the current discussion of skills problems is that, in the absence of objective research findings, it is easy for advocates to make claims that even casual acquaintance with the evidence shows to be false. Perhaps the myriad organizations that have supported advocacy-oriented studies might yet be persuaded to support real research that answers real questions.

It has been six years since Joseph Stiglitz, the Columbia University Nobel-Prize-winning economist, coined the term "GDP fetishism" to explain the almost religious reverence paid to GDP as a surrogate for societal welfare. But GDP isn't the only concept to command veneration from the congregation. "Disruptive innovation," the rocket fuel allegedly propelling growth, has also been assigned an honored place in the pantheon of underexamined economic virtues.

DISRUPTIVE innovation

the dark side

by john komlos

But I get ahead of myself. It first makes sense to take another look at an immensely influential six-decade-old concept that lies behind much that we celebrate in modern economies. In 1942, Joseph Schumpeter, the Austrian-born Harvard economist, famously dubbed the process of growth-powering innovation as "creative destruction." In his then-novel framework, profit-seeking entrepreneurs invent products or processes in order to increase efficiency, improve quality or lower price. The old is swept away by the new in the relentless Darwinian (or, for history-of-ideas buffs, Spencerian) competition for survival.

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Thus, economic creativity in Schumpeter's conceptualization is (like natural selection) at once constructive and destructive: there are almost inevitably losers as well as gainers. Nonetheless, Schumpeter and those who took up the Schumpeterian banner have stressed that creative destruction was, in the main, welfare-enhancing.

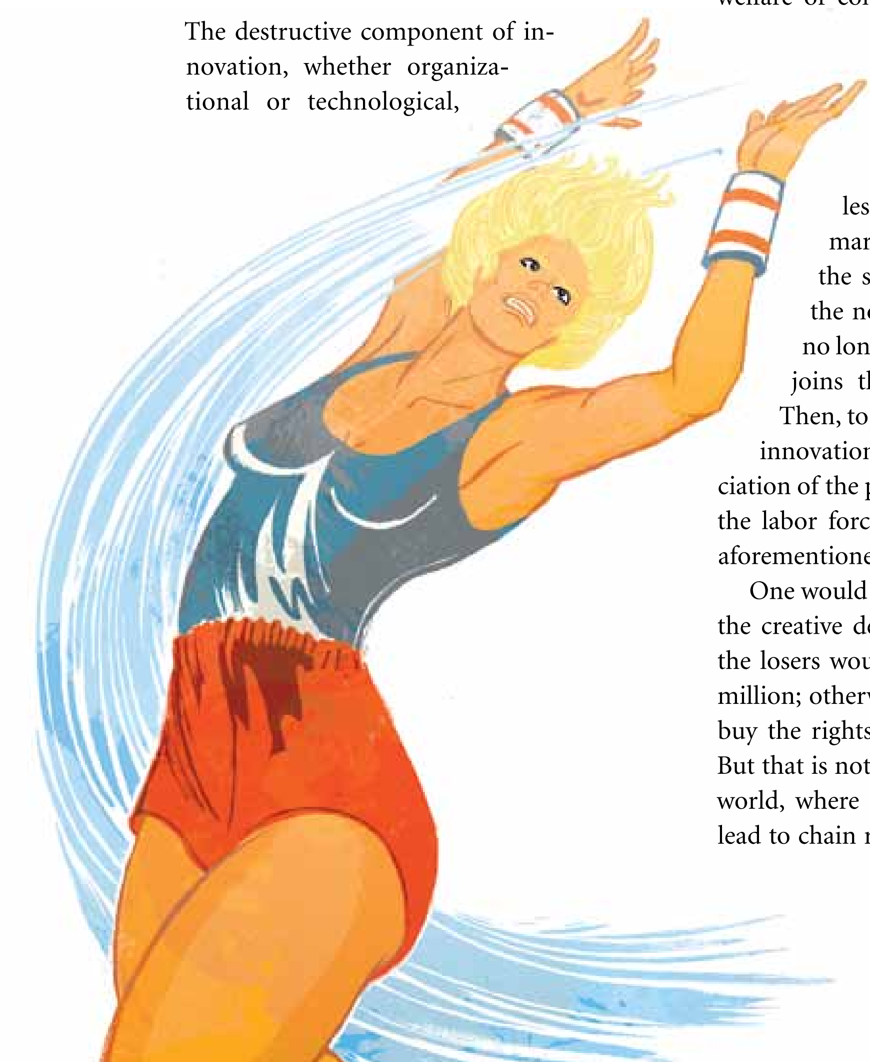
I am less convinced. There is, indeed, a significant downside to creative destruction that Western societies – in particular, the United States – are disinclined to notice. In fact, I'll go a step further: the character of disruptive innovation is evolving in ways that lead to more destruction and less creation.

CREATIVE DESTRUCTION – EMPHASIS ON THE LATTER

The destructive component of innovation, whether organizational or technological, can be viewed as a negative "externality" – a cost borne by third parties in the way that the consequences of pollution spewed by a factory are borne by its neighbors rather than by its owners or customers. To take a simple example: integrating cameras into mobile phones rapidly led to the decline in demand for stand-alone point-and-shoot cameras, and may well have hastened the demise of once-mighty Eastman Kodak. In 1998, that iconic camera and film manufacturer employed 86,000 people (and paid them decent wages). In 2014, after emerging from bankruptcy, it has a skeleton workforce of 8,000.

Look a bit more closely at the tension between creation and destruction. Suppose a new invention adds $50 million to the wealth of the inventor and another $50 million to the welfare of consumers. One might conclude that the societal gain equals $100 million. But further suppose that the invention makes the capital equipment of a rival obsolete, worthless for any use in a competitive marketplace. Suppose further that the specialized labor that operated the now-obsolete capital equipment no longer has value in the market and joins the ranks of the unemployed. Then, to calculate the full impact of the innovation on societal welfare, the depreciation of the physical capital and the skills of the labor force need to be netted from the aforementioned $100 million gain.

One would still expect some net gain from the creative destruction. That is, the loss to the losers would probably be less than $100 million; otherwise, it would pay the losers to buy the rights to the invention and bury it. But that is not necessarily the case in the real world, where firings and plant closings can lead to chain reactions of socioeconomic dis-



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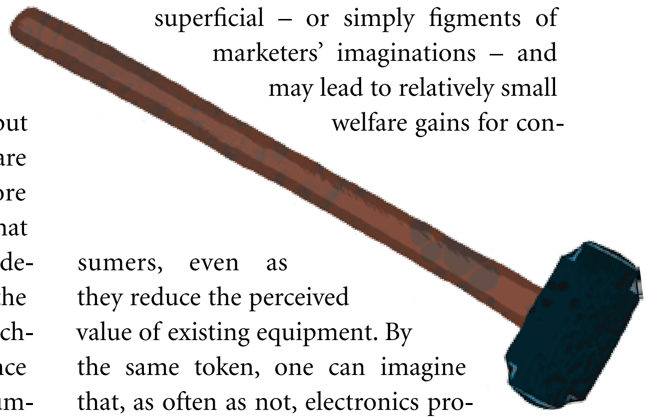
placement that reverberate through families or whole communities. And, in any case, all too often the gains are celebrated while the losses are ignored – or even rationalized in social Darwinian terms as the just desserts of the unproductive.

Apple, arguably one of the firms most responsible for Kodak's death spiral, has but 47,000 employees, two-thirds of whom are earning below-middle-class wages. More broadly, there is every reason to believe that the digital revolution has, on balance, destroyed a lot of jobs. U.S. employment in the Internet-publishing, broadcasting and search-portals sector has increased by 87,000 since 1999; in the same period, however, the number of jobs in newspaper publishing was halved, with a decline of 212,000 positions.

The externalities from creative destruction may also fall on consumers. Consider the case in which a new product wipes out the market for an existing one – as when, in very short order, the DVD made the videocassette player obsolete. Cassette players still played cassettes. But the innovation stopped the sale of new content on tape, requiring consumers to buy DVD players if they wished to watch new movies and the like.

Note, too, the intrusion of the awkward issue of what is commonly called "planned obsolescence." Classical economic theory assumes consumer tastes are formed independently; producers merely strive to satisfy them. That surely isn't always the case – otherwise, the only effective advertising would be purely informational. It is hard to say, though, whether firms often design new models with the primary goal of reducing the value of their old models. While Apple's regular introduction of new iPhone models may have that effect, the company has little choice if it is to stay competitive with the latest offerings from Samsung and HTC – or to smother new market-entrants in their cribs.

But one doesn't need to believe that producers are planning obsolescence to recognize that many consumer innovations are superficial – or simply figments of marketers' imaginations – and may lead to relatively small welfare gains for consumers, even as they reduce the perceived value of existing equipment. By the same token, one can imagine that, as often as not, electronics producers deliberately make new stuff that's incompatible with the last generation of connectors and software – or resist efforts to create uniform industry standards for hardware and software – in order to raise the cost of upgrading to the latest and greatest.



Clothing fashion, where there's little argument that most change is for change's sake, is another example of an industry in which innovation tests our implicit bias in favor of innovation. This year's fashion may generate consumer welfare even if the clothing offers no objective improvement because novelty is fun. But there's no denying the cost in terms of devaluing last year's fashion. Note, moreover, that the new fashion was not demanded by consumers; demand came after the fact. In the case of "positional goods" in which all the benefits of ownership consist of their value in keeping ahead of the Joneses, new ones surely create little or no net value.

MORE DESTRUCTION, LESS CREATION?

In his deification of the innovating entrepreneur, Schumpeter was thinking of the great disruptive innovations associated with both the first and second industrial revolutions –

everything from the steam engine to the telephone to the automobile to the radio. The negative externalities associated with these technologies were small or even negligible compared with the gains in productivity and the resulting improvements in the quality of life. That's because many of these were completely new products (penicillin) or improved productivity across old sectors and new (electrification). Moreover, all of them were capable of capturing economies of scale previously undreamed of, and all satisfied a need innate to human nature, so consumers required little persuading to adopt them if they could afford them. Then, too, the firms they displaced were generally small-scale operations with little capital to depreciate.

What's more, these new technologies used labor on a massive scale so that the workers displaced by the innovations could easily find employment in the new sectors of the economy (though not always in industries that valued their specialized skills). Hence, the destructive force of those innovations was usually small in absolute terms and virtually always small relative to the creative component.

For example, the societal value of replacing kerosene lamps with incandescent bulb lighting was undeniably enormous in terms of reliability, convenience, health and safety. On the other side of the coin, the capital made obsolete and the labor displaced in the kerosene lamp industry was not a major loss to the economy. Similarly, the telephone was a new technology that replaced nothing but some mail – whose volume continued to grow, anyway.

The closer the substitutability between the new and the old products (or the new and old ways of making something), the greater the risk that the cost of displacement is relatively high. Most of the innovations of the 19th and early 20th centuries led to little such substitution, however. But that, I would conjecture, is no longer the case.

THE PROBLEMATIC ARC OF CREATIVE DESTRUCTION

It's hard to quantify this alleged trend toward more destruction and less creation. But, at the anecdotal level, the change is striking. Take mobile communications, which seems to be stranding the huge investment in land-line telephony in rich countries and devaluing the specialized skills of the myriad workers who built and maintained it. Ironically, mobile communications seems to be eating its own entrails, and at an accelerated pace, as marketers have transformed smartphones (which cost as much as laptops to build) into rapidly depreciating fashion statements. You still have an iPhone 5? It is so yesterday, now that the iPhone 6s – and the Samsung Galaxy 5 – are available.

Consider, too, that modern products ranging from digital electronics to pharmaceuticals require huge investments in development, but generally cost relatively little to manufacture. Moreover, many exhibit network effects, in which the value to one consumer depends on how many other consumers have adopted the product. As a result, competition in these markets often leads to winner-take-all outcomes, in which the product with a slight edge in features or marketing acumen obliterates rivals. By no coincidence, Silicon Valley is full of rags-to-riches-and-back-to-rags stories, in which successful products are rapidly displaced by the Next Big Things.

Time Warner, you may remember, effectively paid close to $200 billion for AOL, the Internet service pioneer, in what was seen (by

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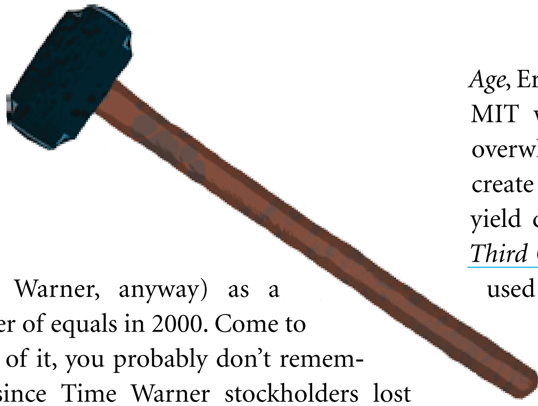

Time Warner, anyway) as a merger of equals in 2000. Come to think of it, you probably don't remember, since Time Warner stockholders lost their entire investment within a few years as AOL sank like a stone in a world of changing technology and marketing-driven tastes.

One could argue that the collective gains from social networking facilitated by Facebook, Twitter, Pinterest, Tumblr, Instagram, etc. look more like earlier generations of innovation in which it's easy to see the gains and hard to see the losses. But at the risk of sounding ancient, I would suggest that the endless online chatter thereby facilitated mostly replaces older ways of socializing without adding much to well-being. The market capitalization of Facebook is a humungous $200 billion (as this was being written), but one has to wonder whether it is just monetizing activities previously left outside the market's purview.

The current list of disruptive technologies widely seen as likely to usher in future waves of innovation ranges from autonomous vehicles to artificial intelligence to education based on massive open online courses. They may or may not deliver on the hype. But it seems pretty clear that, if they do, they are going to displace a lot of jobs. Economists are too easily inclined to dismiss these losses as frictional, problems to be solved by labor markets made more efficient by searching, telecommuting and retraining at rapidly declining cost, thanks (again) to the Internet.

Maybe. But that is far from a consensus view. In a recent book, *The Second Machine Age*, Erik Brynjolfsson and Andrew McAfee of MIT warn that labor-saving innovation is overwhelming the capacity of the economy to create jobs that are sufficiently productive to yield decent wages. [*Read an excerpt in our Third Quarter 2014 issue – the editors.*] What used to be called automation, they suggest, is about to make many sorts of skills uncompetitive with machines at virtually any price.

Actually, in this litany of concerns we have thus far failed to take account of the most familiar negative externalities of innovation, the ones that threaten health, safety and the environment – what Joel Mokyr of Northwestern calls the "bite-backs" that range from asbestos-induced cancer to that monster in the closet, fossil-fuel-induced climate change. [*See Mokyr's analysis in our Second Quarter 2014 issue – the editors.*]

Wait; there's more. Not all successful market-driven innovations even aim to enhance productivity or increase consumer welfare. Many are designed for what economists call "rent seeking" – capturing existing economic surpluses that would have otherwise gone to others. The share of GDP going to the financial services industry roughly doubled in the two decades preceding the Great Recession. And while some innovations in these years did make capital markets more efficient (think index funds and asset securitization), others did little more than shift risk from private financial intermediaries to government agencies (uninsured money market funds, Fannie Mae and Freddie Mac) or lure low-income households into mortgages they couldn't afford. The "bite-back": trillions in lost output and untold misery for the unemployed and foreclosed during the recession.

SO, WHAT CAN WE DO ABOUT IT?

We shouldn't (and really couldn't) stop inno-

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vation, but we should recognize the dark side and begin to think of ways to mitigate the pain of the victims. This means acknowledging that innovation generates losers who, in some circumstances, should be compensated for their losses.

It has become a cliché (no less true for its repetition) that, since the 1970s, technological and organizational change (including globalization) has meant that the bounty of growth in the industrialized world has largely gone to the rich, even as the volatility of in-

In an era of rapid innovation it would make a lot of sense to get serious about finding ways to compensate the losers and, when practical, to shift the burdens to those who create the costs in the first place.

come increased for the bottom half. It has also become a cliché (equally true) that interfering directly with market outcomes to redistribute income creates the risk of slowing productivity-enhancing innovation. But this hardly implies that incomes shouldn't be redistributed by indirect means – notably through tax policy and the delivery of productivity-enhancing services (education, health care) to the losers in the games of markets.

By the same token, there is a fairly strong case to be made for reducing the income volatility that has been exacerbated by innovation. For example, research suggests that increasing the duration of unemployment compensation has only a marginal impact on the willingness of the jobless to search for work.

Then, there is the question – really, questions – of the regulation of innovation. There's a long, and for the most part positive, history of requiring innovators in endeavors ranging from automobiles to pharmaceuticals to take steps to minimize bite-back. And in cases where some bite-back is the price of vital change, there's some precedent for compensating the losers. Thus, the extremely small number of children harmed by epidemic-preventing vaccinations are compensated from a no-fault fund financed by fees on vaccine sales.

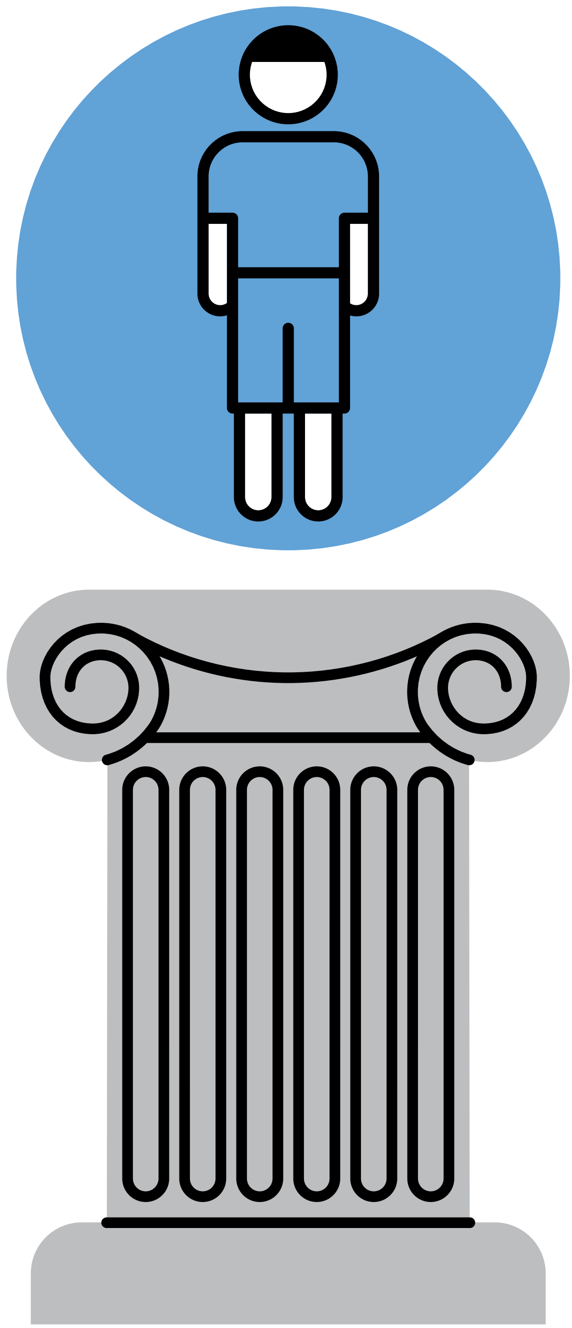
But in an era of rapid innovation – and, I believe, growing costs in harm to workers, consumers and the environment – it would make a lot of sense to get serious about finding ways to compensate the losers and, when practical, to shift the burdens to those who create the costs in the first place. That doesn't necessarily mean, say, protecting bricks-and-mortar bookstores from online booksellers. But it does mean enforcing the antitrust laws to prevent the accumulation of market power by innovators. That doesn't necessarily mean barring the use of coal in generating electricity. But it does mean enforcing environmental and safety laws on the coal industry and taxing coal to reflect its impact on climate.

The transition to a post-industrial economy has been far from advantageous to a substantial share of the population. Just because we have been innovating and growing successfully for a quarter of a millennium by no means implies that the process will, or should, continue indefinitely. No such economic law exists, and the historical record indicates that there are times when economic regimes reach a tipping point and abruptly change direction.

That is what I believe is happening now. At the very least, it is time to acknowledge the possibility.

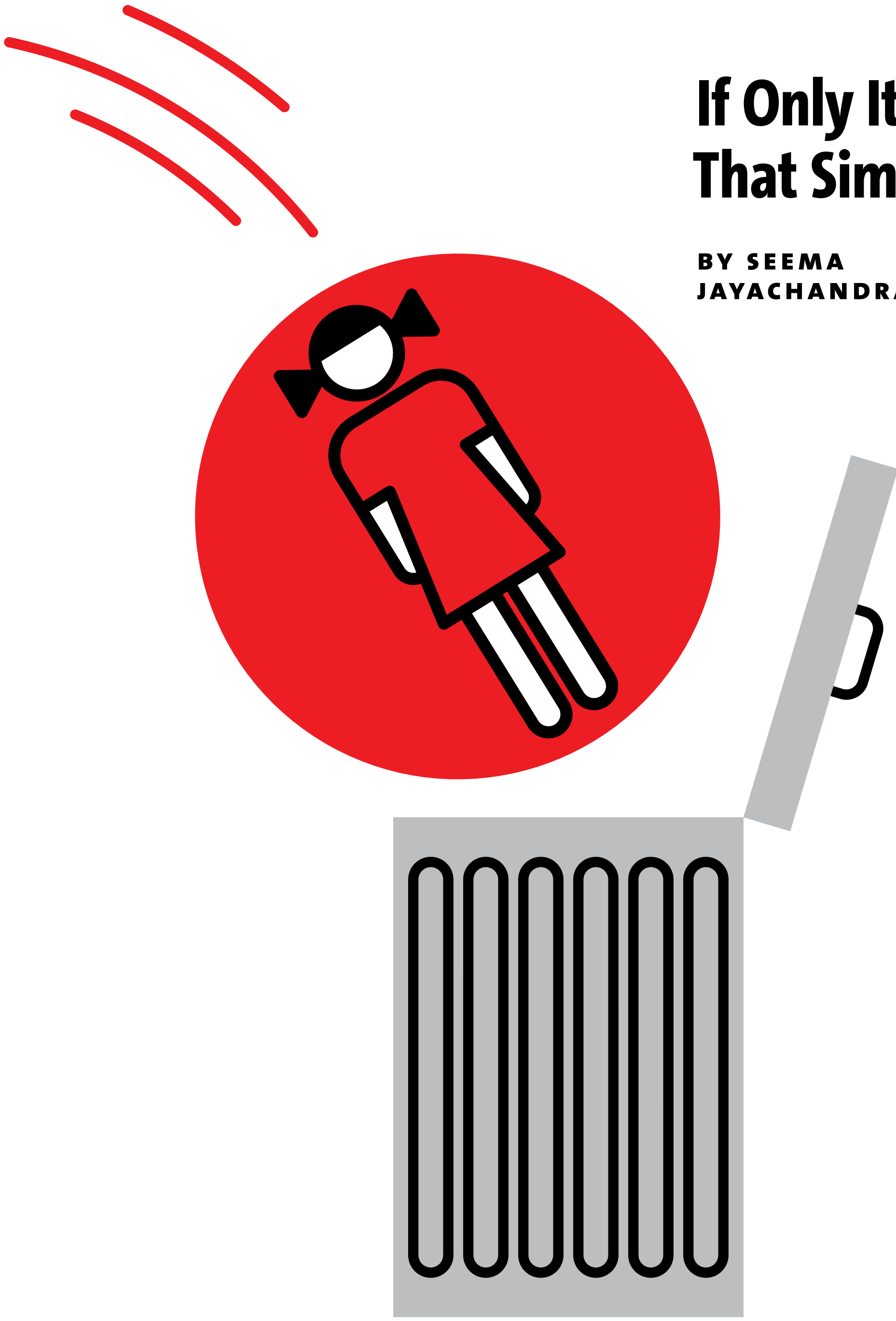
JACOB THOMAS

Does Economic Development Mean Less Discrimination Against Women?



If Only It Were That Simple...

BY SEEMA JAYACHANDRAN



ANDERS WENNGREN

Women in richer countries generally have it better than women in poorer ones. That is stating the obvious, though perhaps it will seem less so when I add that this is true even when considering women's lives relative to those of men. The advantages men enjoy in terms of years of education, health, legal rights – even satisfaction with life as measured by surveys – all lessen as a country develops.

This makes it tempting to view improvements in gender rights as a simple progression. In the poorest countries, the reasoning goes, women have little power in the home or community. As a country develops, women are progressively empowered until they reach the state of their counterparts in the West, where the gender gap has been eliminated in education, if not in salaries. At the furthest point of evolution (so far, at least) are Scandinavian utopias, with their impressive rates of male dish-doing and diaper-changing.

Like most simplified models of the world, the idea that development will eradicate gender inequality is based on some facts, yet fails to account for others. The tidiness and optimism the model offers are apt to blind us to societal patterns in specific countries that buck the trend – with great detrimental effects on women and especially on girls. Indeed, this inclination to assume that development is the all-purpose fix distracts from the very real need to press for gender equality by other means.

In both graphs on the opposite page, the horizontal axis represents percapita GDP in purchasing power terms. Countries farther to the left are poorer, farther to the right, richer. In the left-hand graph, the vertical axis represents the male-to-female enrollment ratio – the gender gap – in higher education. Clearly, as countries develop, this gap narrows.

Similar descending lines, of varying steepness, would be apparent if we substituted any of a host of measures of female disempowerment, ranging from the social acceptance of domestic violence to attitudes toward women in the workplace. Women's health improves along with economic development, too; while women everywhere generally live longer than men, this advantage is smaller in poor countries. In short, according to most measures, women do better in relative terms as countries get richer.

Now look at the graph on the bottom. Here, the vertical axis represents the male-to-female birth ratio. The line doesn't descend

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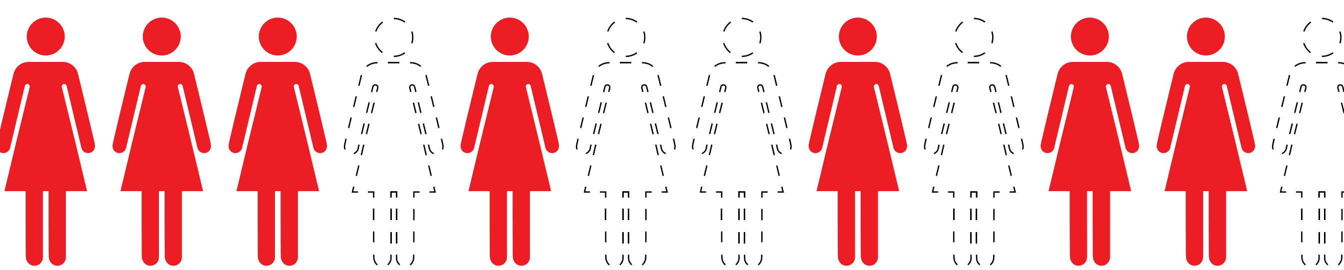
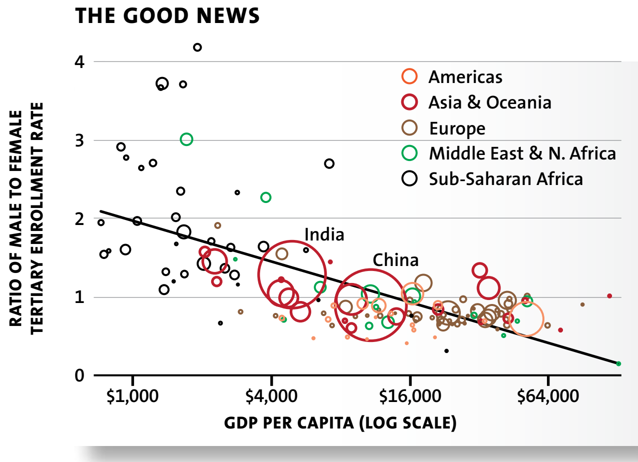


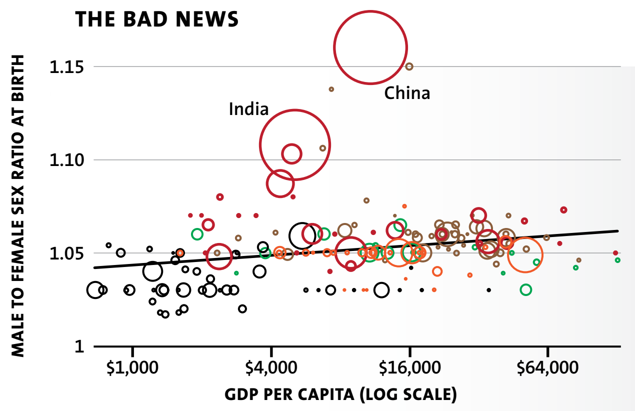
with wealth; it ascends. There is no biological reason that relatively more males are born in richer countries. Almost surely, this ratio is manipulated through sex-selective abortion; the smoking gun is that the abnormally high rate of male births is concentrated among couples whose children are all girls – that is, those most desperate to have sons.

The Nobel laureate Amartya Sen famously highlighted this problem in a 1990 essay, "More Than 100 Million Women Are Missing," in which he found the phenomenon to be concentrated in East and South Asia. Since then, many studies have looked at the "missing women" problem and documented that the disappearance of females begins before birth through abortion and continues after birth through infanticide and disproportionate death rates among girls as families take better care of boys. One analysis showed that the pattern continues over the entire life span because women receive lower-quality care than men when ill.

The sex imbalance at birth is a troubling form of gender bias. The fact that it *increases*, on average, as countries grow richer is arguably more troubling and certainly does not square with our optimistic model of development inevitably empowering females – or, for that matter, with economic rationality. As girls become more educated, they have more capability to take care of their parents in old age, a role boys have typically played in many societies. When people have better ways to save as the financial sector develops, they have less reason to depend on their children as old age insurance, anyway. The "worth" of girls should increase, and there should be less reason to abort them. Obviously, there must be forces other than income shaping gender discrimination.



NOTE: Size of bubbles represents relative size of population



SOURCE: The author

Therefore, it's worth taking a harder look at our model of gender inequality as explained by underdevelopment, and asking if the countries that are poor today have characteristics and cultural beliefs that cause gender inequality to grow as they develop. And it is worth paying special attention to the measures that buck the trend of increasing female empowerment, such as the aforementioned birth ratios and, strikingly, women's participation in the labor force.

Does a country's low stage of development cause gender bias?

A large body of research has explored the ways in which low economic development can cause gender inequality. (I define development conventionally – higher household income, better physical infrastructure, more advanced technology, etc.) One strong pattern: as economies grow, they move away from agriculture and toward services, a broad category that encompasses everything from office work to education to tourism. Agriculture generally requires more physical strength than services, and in these sectors men have a comparative advantage. Women, for their part, have a comparative (though not necessarily an absolute) advantage in mentally intensive tasks. So relative female labor productivity (that is, the market value of an hour of work) might be expected to increase with development and, with it, female independence and empowerment.

Two decades ago, the economists Oded Galor and David Weil crafted a theoretical model of this phenomenon that predicted a virtuous circle, in which a higher female wage reduces fertility because having children entails a greater amount of lost income. This slowdown in population growth increases the amount of capital (for example, equipment and financial assets) per person in the economy, which makes workers more productive, especially in mentally intensive work, fueling growth and pushing the female wage even higher.

But before a country goes through that shift from agriculture to services, there are ways the "brawn-based" economy can reinforce gender gaps. For instance, if the main payoff for educating children is that they will earn a higher wage, the fact that boys have a greater chance of working could lead parents to invest more in their education. This is true of agricultural societies because, though they are brawn-based, there are still significant returns to schooling. Numeracy serves farmers well when they're selling crops at market, and analytical reasoning helps them figure out how much fertilizer to use with the new variety of seeds they've adopted. As brain-based sectors grow, girls' schooling should catch up.

Not only might strengthening women's employment opportunities erase girls' disadvantage in schooling, it might also undermine other forms of gender discrimination. When women earn more, they also have more say in household decisions. For example, if women are less keen to abort female fetuses than their husbands are, improvements in women's earnings could lead to fewer aborted girls and a less skewed sex ratio.

Another potential benefit: a reduction in domestic violence. A study in the United States looked at changes in women's earning potential arising from a growth spurt in female-dominated industries. It found that the narrower the gender wage gap, the less violence women suffer at home.

To examine this question of how the value of women's work influences gender gaps, the

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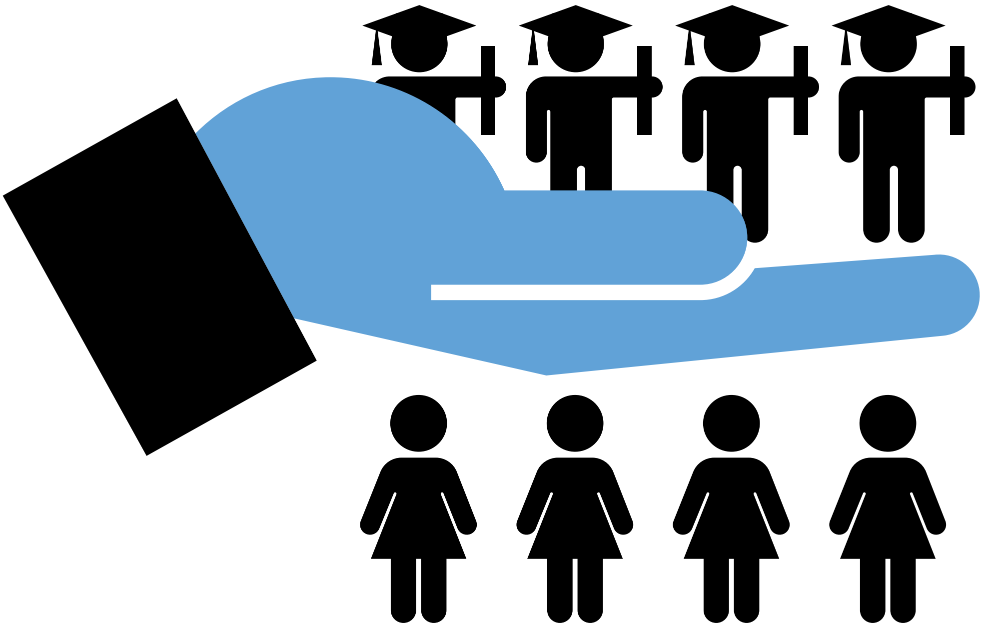

If the main payoff for educating children is that they will earn a higher wage, the fact that boys have a greater chance of working could lead parents to invest more in their education.

economist Nancy Qian analyzed reforms in China in the late 1970s that made raising crops for market more lucrative. She started with the idea that women have a comparative advantage in picking tea leaves, which are delicate and grow on short bushes, whereas men's height and strength give them an advantage in picking fruit from trees. With that in mind, she compared the impact of the economic reforms in tea-growing regions, where female labor productivity should have especially risen, with regions specializing in fruit orchards, where male labor productivity should have risen most. And as one would predict, the data showed that in tea-growing regions the reforms led to fewer "missing" girls.

Other studies have used variation in farm tools of choice across countries (from brawn-requiring plows to woman-friendly hoes) and soil type in India (hard clay-rich soil is more suitable for men to plow) to make similar points. As women's labor becomes more valuable, gender gaps do, indeed, close.

Another near-universal pattern: as a country develops, families have fewer children. Low fertility is likely to be both a cause and effect of economic growth. But in any case, a "demographic transition" that begins with people living longer and proceeds to their having fewer children is part and parcel of development. The fact that fertility is lower in rich countries helps explain the smaller gender

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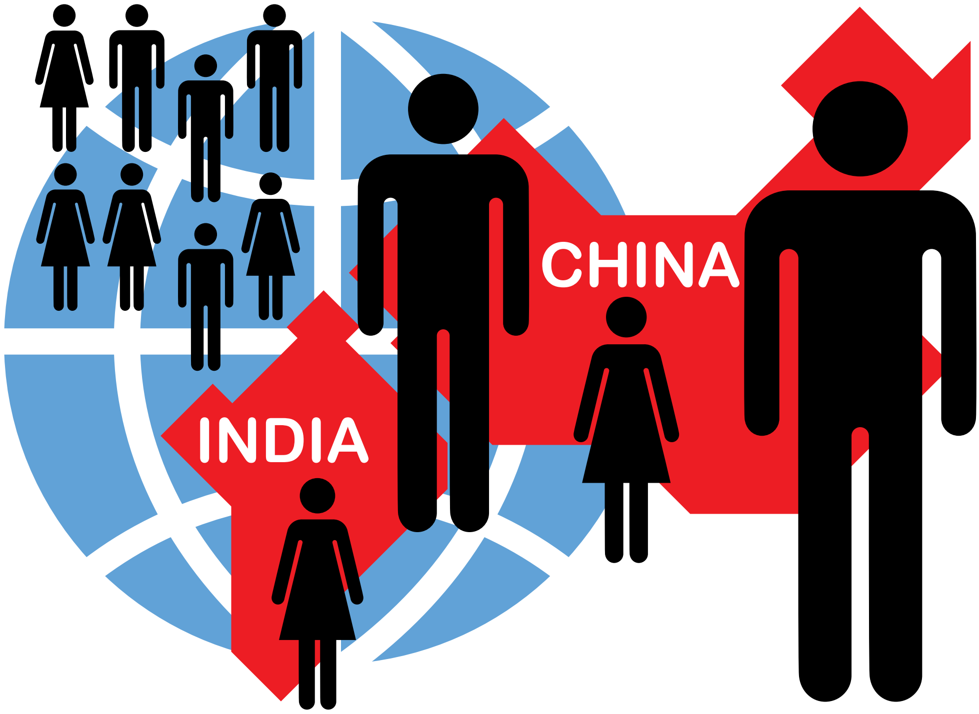

gaps in education, health and the workplace.

High fertility reflects the desire for many children (for "old-age insurance" and other reasons) but is also due to limited access to contraceptives. A study analyzed the rollout of a large-scale family-planning campaign in Colombia in the 1960s and 70s; it found that access to contraception delayed the age of childbearing and increased how much education women attained, as well as their employment rate. This evidence, incidentally, is consistent with a U.S. study by Harvard's Claudia Goldin and Lawrence Katz showing that access to oral contraceptives transformed the career opportunities of women, facilitating a move toward careers like law and medicine that require many years of upfront investment.

Childbearing is not only more common in developing countries, it is also more dangerous. The result of both of these factors is that 99 percent of the world's maternal mortality (deaths during or shortly after pregnancy from causes related to the pregnancy or birth) occurs in developing countries. Adriana Lleras-Muney (UCLA) and I analyzed a period of rapid decline in maternal mortality in Sri Lanka in the 1940s and 50s that was brought about by medical progress and improvements in the public health system. The longer a woman lives, the longer she has to accrue the benefits of an education. We hypothesized that this should raise the incentive for women to attend school. Sure enough, we found that the reduction in maternal mortality risk caused girls' schooling to increase. We estimated that this accounted for one-third of the narrowing of the gender gap in education that occurred over the period.

Does culture in poor countries reinforce gender bias, independent of economic development?

The examples I've cited describe mechanisms that do not depend on cultural differences

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between rich and poor countries but, rather, predict that gender bias will decline in any country as it develops. The richer countries are just further along. But other explanations do attribute gender gaps to cultural differences in today's poor countries. Lack of development still remains relevant even when beliefs and practices are at play – poverty often exacerbates the cultural forces that lead to favoritism toward males – and not all evidence fits neatly into this development-versus-culture taxonomy. Despite its imperfections, however, this line of thinking sheds light on whether development alone will eradicate gender inequality.

Compared with other countries, India and China have exceptionally male-skewed sex ratios. These two countries have huge populations – they contain a third of the earth's population – and so are the drivers of the phenomenon.

So, when it comes to gender inequality, are the poor different from the rich only in that they have less money? Clearly the answer is no, if the gender ratio at birth rises with wealth. Returning to the second graph on page 39, two features stand out. First, the sex ratio is more skewed in more developed countries. This across-country pattern mirrors the across-time fact that the sex ratio has worsened in China and India as the countries have grown richer. Second, compared with other countries, India and China have exceptionally male-skewed sex ratios. These two countries have huge populations – they contain a third of the earth's population – and so are the drivers of the phenomenon.

Several cultural factors in China and India lead families to prefer sons. One is *patrilocality*, the practice by which a married couple lives with or near the husband's parents. When a woman gets married, she essentially ceases to be a member of her birth family and joins her husband's. Under this system, parents potentially reap more of the returns to investments in a son's health and education because he will remain a part of their family. Thus, it might be economically rational for parents to seek more medical care for a sick son than a sick daughter.

A 2011 study identified 405 parents in India who had been advised that their children needed surgery to correct a congenital heart condition and checked on them one year later. Of the boys, 70 percent had undergone surgery – but only 44 percent of the girls. The mind-set about investing in daughters is encapsulated in an often-quoted Indian saying: "raising a daughter is like watering your neighbors' garden." This sentiment is echoed in a Chinese proverb that describes raising a daughter as "plowing someone else's field."

Co-residence of adult sons and elderly parents is much more common in Asia, the Middle East and North Africa, the same places where larger-than-average gender gaps are observed. Several studies have shown that areas where patrilocality is more widely practiced (for example, northern versus southern India) have higher male-to-female birth ratios.

Closely linked to patrilocality is the fact that sons traditionally provide old-age support for their parents in many societies, including China and India. Avraham Ebenstein and Steven Leung investigated whether this explains the preferences for sons in China. They hypothesized that once the Chinese government instituted the Rural Old-Age Pension Program, parents would have a substitute source of old-age support, and thus their desire to have sons should abate. The data proved to be consistent with this hypothesis: households without sons were more likely to participate in the pension program, while access to the pension program was associated with a less-skewed sex ratio.

One reason for the very low FLFP in some countries is the risk associated with women's ability to move about the community – both the objective risk of assault and the socially constructed risk to family honor.

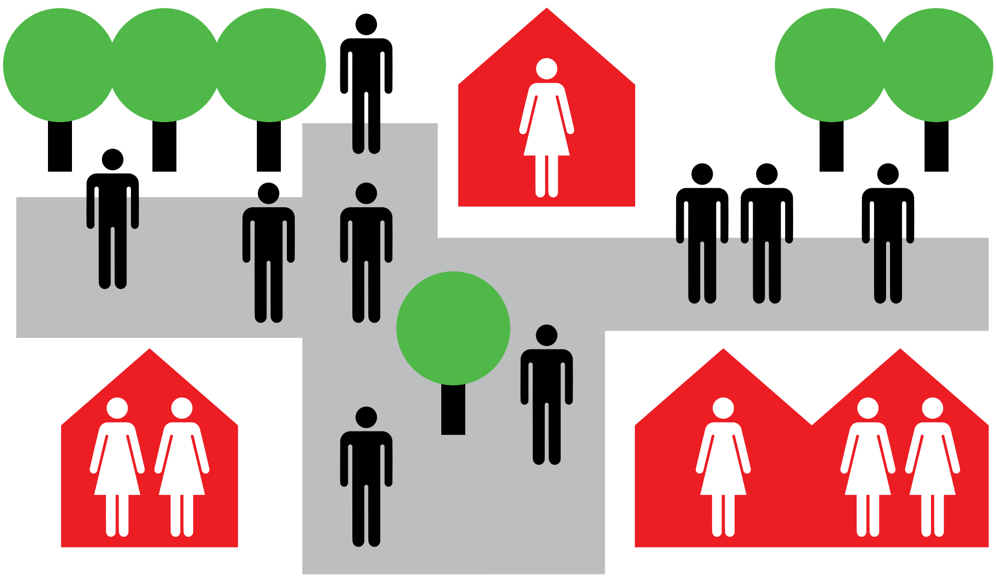
Also entwined in this set of cultural practices is the *patrilineal* system, under which the family name and property pass to male descendants. Male land inheritance in particular is likely to strengthen gender gaps. For example, because widows in India traditionally do not inherit their husbands' ancestral property, they rely on their sons as conduits for holding onto land and maintaining their living standards. This consideration might be one reason that mothers sometimes show as much preference for sons as fathers do.

A series of amendments to the law in the 1980s and 90s made daughters' property rights status equal to that of sons in parts of India. And the reforms did lead to a rise in women's inheriting land. Women's age of marriage also rose and girls received more schooling, presumably because their mothers were more empowered in the household or because their parents thought that education would be useful to them in their future role as landowners.

The hefty dowries that parents must pay are often cited as a key factor in the preference for sons in India. The evidence is mostly anecdotal, since dowry payments (unlike inheritance) are kept off the books. Yet the financial burden seems to loom large in prospective parents' minds. The author of a 1993 article describes a billboard that was put up when prenatal sex-diagnostic tests were just arriving in India. A new clinic in the city of Amritsar urged parents to "invest Rs. 500 now, save Rs. 50,000 later." The 500 rupees today was the price of an ultrasound test, which would tell the parents if their fetuses were female; the 50,000 rupees later – which did not need to be spelled out on the billboard – was the dowry the parents would save if they aborted the female fetus.

Religion and philosophy may also play roles in the preference for sons in Asia. Confucianism encourages the patrilineal and patrilocal systems, and ancestor worship involves rituals in which sons play essential parts. Hindu rituals calling for the son to light the funeral pyre are adhered to more strictly by upper castes than by lower, and an analysis of a century-old Indian census found a more skewed sex ratio for upper castes than lower castes. Yet some of these ritualistic reasons for son preference (along with other cultural reasons) should push families toward wanting at least one son – not exclusively sons. Indeed, my own research has shown that parents in India strongly want to have one male child, but, once they have him, prefer a more or less balanced gender ratio.

These institutional forces explain the persistence of son preference in India and China, but they don't explain why the preference grows with development. Why is the problem getting worse both with wealth and over time? One reason is technological innovation: female infanticide and neglect of daughters have been with us for centuries, but the ability to ascertain the sex of a fetus has given rise to safe sex-selective abortions and significantly exacerbated the missing women problem.



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Ultrasound accounts for about half of the increase in the sex imbalance in China. A second factor at work is declining fertility. Conventional wisdom is that couples limited in their family size by China's one-child policy used sex-selective abortions to ensure the "one" was a son. Consistent with this idea, in parts of China where the penalties for violating the one-child policy were more onerous, the sex ratio was more imbalanced.

A similar phenomenon is at work in several other countries not driven by a legal restriction on family size, but simply on a desire to have smaller families. Couples' ideal family size becomes systematically smaller as countries grow richer. For one thing, a higher female wage makes it more costly for the woman to take time out to have children. Moreover, richer families shift emphasis from the quantity of children to their "quality" – how healthy and educated they are. For a couple who strongly want at least one son, as their ideal number of children shrinks, they become less likely to get that one son naturally within that ideal number and more likely to resort to sex-selective abortions.

The upshot: in societies like India and China that place enormous value on eldest sons, our simple optimistic model seems to have it backward. Economic progress actually worsens the problem of missing women.

With development, will women leave the domestic sphere for the workforce?

According to our optimistic model, female labor force participation should rise and the gender gap in the workplace should narrow as a country grows richer. As a poor country develops infrastructure, a woman will spend less time carrying water from the village well and gathering firewood, freeing her for paid labor. As fertility declines, the years she has available to participate in the labor force should increase, and eventually her country should enter Galor and Weil's virtuous circle of empowerment begetting development and vice versa.

The existence of culturally rooted gender norms means that even when India, China and Egypt advance to today's level of U.S. GDP per capita, they may not advance in terms of their preference for sons, equal employment opportunities for women, the decision-making power of women, and so forth.

Some of the evidence supports this model. One study shows that the extension of the electricity grid in post-apartheid South Africa increased female labor force participation (FLFP), most likely by facilitating a shift away from cooking with wood fires and by increasing the productive hours in the day, thanks to electric lights. Across nations, however, FLFP doesn't steadily link growth with wealth or income; it is U-shaped. And within specific countries, it also follows a U-shape over time. The cause appears to be cultural practices and beliefs again.

The explanation for a U-shaped curve for FLFP goes like this: at low stages of development, a large number of women work, say, tilling the fields. With development, jobs shift toward factories and offices. Higher wages mean that households can afford to forgo some earnings, and women withdraw from the labor force because of the social stigma men perceive from having their wives work – especially in manual labor. This transition explains the downward part of the U. Farther along in development, the female wage rises because of the brawn-to-brain shift discussed above. Jobs in occupations deemed "respectable" for women (such as clerical work) grow, which causes women to re-enter the workforce, and the curve swings back up.

Studies have documented a U-shape in the time trend of female labor force participation for individual countries as they grow and in comparisons of households of varying income within countries. But in some regions (India, the Middle East and North Africa), FLFP has remained stubbornly low despite development; the rising part of the U-shape has yet to materialize. One reason for the very low FLFP in some countries is the risk associated with women's ability to move about the community – both the objective risk of assault and the socially constructed risk to family honor.

A tenet of the Hindu caste system is that women should be protected from "pollution," which includes exposure to men outside their own families. Prohibiting women from working outside the home is thus one way of maintaining their purity. The practice of purdah similarly limits women's career opportunities in many Muslim societies.

In India, one promising development is

the boom in call centers, which have created new types of "good" jobs for women. Many of the women who take jobs in call centers would otherwise not have worked at all. Moreover, the prospect of obtaining these jobs raises young women's career aspirations, motivating them to enroll in computer and English training courses and to delay marriage and childbearing.

CAN PUBLIC POLICY CLOSE CULTURE-BASED GENDER GAPS?

The existence of culturally rooted gender norms means that even when India, China and Egypt advance to today's level of U.S. GDP per capita, they may not advance in terms of their preference for sons, equal employment opportunities for women, the decision-making power of women, and so forth. Moreover, we might not want to wait patiently as the problem of gender inequality resolves itself through market forces.

So what policies could induce gender gaps to close?

One is to give couples the financial incentives both to have female babies and to invest in them. Many states in India offer incentives to have daughters, while Mexico's Oportunidades cash grant program for the poor responds to the higher female school dropout rate by giving families larger financial incentives to educate girls than boys. Another is to give mothers legal control over household financial resources – there's evidence that when women control a larger share of household income, girls' outcomes improve.

There is an important caveat to the approach of giving more power to women: the differences in gender attitudes between men and women are sometimes surprisingly small. When asked whether a university education is more important for boys than girls, 18 percent of Chinese women agreed, versus 23 percent of men. And sometimes attitudes even go in the counterintuitive direction: Indian women show more tolerance for gender-based violence than men. Such views may be explained by practical concerns – the need for Indian widows to hold onto property through male heirs, the status gain enjoyed by Chinese once a boy is born – or by the simple lack of positive empowered-female role models. Either way, my work showing that mothers' gender attitudes appear more influential than fathers' in shaping children's views suggests that vicious circles could be created, with disempowered mothers disempowering their daughters.

An obvious step is to grant equal legal rights to women. Such reforms, however, are often weak. For example, the reform granting women rights to ancestral land in India that I mentioned earlier is far from universally enforced. Similarly, bans on prenatal sex determination, dowry obligations and child marriage often have limited practical effect.

On the other hand, a law requiring that a specific number of seats be reserved for women on village councils in India has had significant effects. The quota has influenced practical aspects of women's lives, as female leaders implemented policies that better reflected the preferences of their female constituents. Moreover, it began to reshape attitudes toward women as leaders (even in the minds of men), and it raised both the aspirations of girls (as measured in surveys) and parents' long-term investments in them.

If we want to weaken the forces that impede countries from following our optimistic model of empowerment with development, maybe we should begin with the mind. The arrival of positive female role models seems to have a strong effect, changing men's undervaluation of women and, as important, women's attitudes toward other women.

Thomas Piketty

Human Capital in the 21st Century

BY ALAN B. KRUEGER

I think it is fair to say that no French writer save Alexis de Tocqueville has been more influential in the United States than Thomas Piketty, director of studies at the elite Écoles des Hautes Études en Sciences Sociales in Paris and, most important here, author of *Capital in the Twenty-First Century* (Harvard University Press). Piketty's magnum opus has succeeded in achieving its goal of provoking a serious public discussion about a shadow hanging over capitalism, the rise in economic inequality.

The 700-page tome soared to the top of *The New York Times*' bestseller list, was praised by leading lights in the economics profession, venerated by op-ed columnists and assorted talking heads, and critiqued by serious social scientists and political partisans alike. Even if *Capital…* holds the record for the fewest pages read by the most purchasers (beating out Stephen Hawking's *A Brief History of Time*), it has provided an immense service by engaging the public in the economic theory of income distribution and by stimulating a sometimes-thoughtful discussion of the future course of inequality.

By this time, the book's strengths are widely known. It assembles and reviews centuries of data on capital's share of income in several countries. It gathers evidence on both the rate of return to capital and economic growth. It provides a provocative and intuitive theoretical argument predicting that income will become increasingly concentrated in the hands of capital owners and their heirs in the future if, as has been the case throughout much of history, the return on capital exceeds the growth rate of the economy. And it provides a sweeping perspective on economic history and the history of economic thought. Larry Summers, the former Treasury Secretary and president-emeritus of Harvard – and not one to suffer fools – called the book "a Nobel Prize–worthy contribution."

ALAN KRUEGER, who teaches economics at Princeton, served as chairman of the President's Council of Economic Advisers from 2011 to 2013. Previously he served as assistant secretary for economic policy and chief economist at the U.S. Department of Treasury (2009-10) and chief economist at the Department of Labor (1994-95).

ON THE OTHER HAND…

Scholars have also raised some serious shortcomings with the analysis. No, I don't refer to the *Financial Times*' Chris Giles's overwrought and insignificant allegations of data errors (What is the world coming to when journalists can levy allegations at serious research without vetting, and yet command instant global attention?). Far more important issues have been raised by Per Krusell of Stockholm University and Tony Smith of Yale, for example, as to whether it is appropriate to assume (as Piketty does in what he calls the "second fundamental rule of capitalism") that capital's share of national income will tend toward the ratio of the savings rate to the growth rate in the long run.

The two economists note that the "fundamental rule" is untenable at one extreme (if growth falls to zero, savings would consume all of GDP) and that it is inconsistent with U.S. experience. They also point to alternative models of economic growth that are more

PREVIOUS PAGE: JT MORROW

consistent with U.S. experience. Serious related questions have been raised by Summers and others as to whether Piketty is sufficiently sensitive to the role of capital depreciation. Still others have pointed to the reality that inherited wealth is spread over multiple heirs, that heirs do not always invest wisely, and that many wealthy individuals choose to donate the bulk of their wealth to charitable causes rather than leave it to their offspring (thank you, Bill Gates and Warren Buffett).

I would yet raise another concern about *Capital…*, one that suggests that the evolution of inequality might be even more alarming than Piketty predicts. The focus of the book is on physical capital and financial capital. Human capital is given short shrift. Yet the importance of human capital – the investments that people make in their own productive capacities, just as capitalists invest in plant and equipment – is quite old in economics. In *The Wealth of Nations*, for example, Adam Smith wrote:

> A man educated at the expence of much labour and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. The work which he learns to perform, it must be expected, over and above the usual wages of common labour, will replace to him the whole expence of his education, with at least the ordinary profits of an equally valuable capital.

In modern economies, the returns to human capital account for the lion's share of

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national income, and investment in human capital drives economic growth. (See, for example, my May 1999 paper in the *American Economic Review: Papers and Proceedings* for evidence on the outsized role played by human capital in the U.S. economy, and Paul Romer's 1990 *Carnegie-Rochester Conference Series* paper on human capital and growth.) Indeed, the categories referred to as labor's share of income and capital's share of income appear crude and antiquated when one can compare the share of income accruing to diverse groups ranging from managers to college graduates to high school dropouts.

The U.S. may be headed for an inequality trap, where rising inequality in one generation reduces opportunities for economic advancement for disadvantaged children in the next generation, and so on into the future.

A more troubling aspect of the Piketty phenomenon is not about what he might get wrong, but what he sweeps under the rug. While the increased concentration of income among the top 1 percent of Americans has attracted enormous attention in the wake of the American publication of *Capital*… and the earlier Occupy movement, the rise in income inequality among the bottom 99 percent is arguably a far more important feature of the economic landscape, and one at least as worrisome. Moreover, changes in earnings associated with different levels of education – that is, human capital – have played an outsized role in raising inequality among the bottom 99 percent of Americans.

Consider the following hypothetical calculation. If the top 1 percent's share of income had remained constant at its 1979 level, and all of the increase in share that actually went to the top 1 percent were redistributed to the bottom 99 percent – a feat that might or might not have been achievable without shrinking the total size of the pie – then each family in the bottom 99 percent would have gained about $7,000 in annual income (in today's dollars). That is not an insignificant sum. But contrast it with the magnitude of the income premium associated with educational achievement: The earnings gap between the median household headed by a college graduate and the median household headed by a high school graduate rose by $20,400 between 1979 and 2013 according to my calculations based on the Bureau of Labor Statistics' Current Population Survey. This shift – which took place entirely within the bottom 99 percent – is *three* times as great as the shift that has taken place from the bottom 99 percent to the top 1 percent in the same time frame.

What's worse, there are reasons to believe that the enormous rise in inequality that we have experienced will reduce intergenerational economic mobility and cause inequality to rise further in the future. In 2012, I popularized a relationship that I called the Great Gatsby Curve (*opposite page*), based on earlier research by Miles Corak, Anders Björklund, Markus Jäntti and others. The Great Gatsby Curve shows that countries experiencing high inequality in one generation tend to have lower intergenerational mobility in the next.

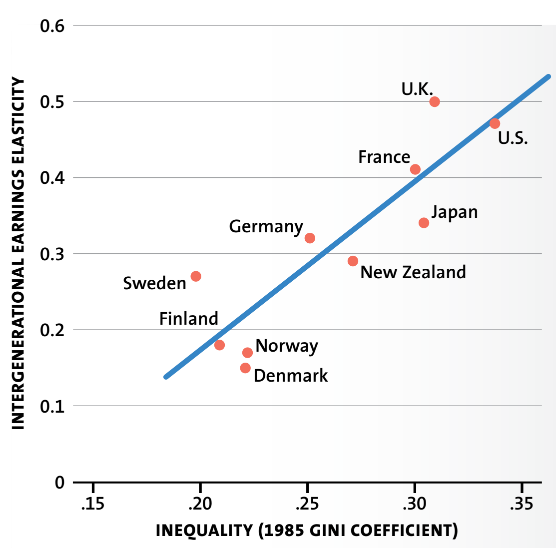
Raj Chetty and coauthors have shown that this relationship holds across labor markets within the United States as well and that higher inequality in the bottom half of the distribution is particularly predictive of lower intergenerational mobility.

The phenomenon of the Great Gatsby Curve is predicted by standard human capital theory. If the return to education increases over time, and higher-income parents are more prone to invest in the education of their children than lower-income parents – or if talents are inherited from one generation to the next – then the gap between children of higher- and lower-income families would be expected to grow with time. Furthermore, if social networking and family connections also have an important impact on outcomes in the job market, and those connections are transmitted across generations, one would expect the Great Gatsby effect to be even stronger.

There are, indeed, signs that the rise in income inequality in the United States since the late 1970s has been undermining equality of opportunity. For example, the gap in participation in extracurricular activities between children of advantaged and disadvantaged parents has grown since the 1980s, as has the gap in parental spending on educational enrichment activities. Furthermore, the gap in educational attainment between children born to high- and low-income parents has widened. The rising gap in opportunities between children of low- and high-income families does not bode well for the future.

Based on the rise in inequality that the United States has seen from 1985 to 2010 and the empirical evidence of a Great Gatsby Curve relationship, I calculated that intergenerational mobility will slow by about a quarter for the next generation of children. My concern – one entirely independent of Piketty's focus – is that the United States may be headed for an inequality trap, where rising inequality in one generation reduces opportunities for economic advancement for disadvantaged children in the next generation, and so on into the future.

THE GREAT GATSBY CURVE



SOURCE: The author

What could prevent such an inequality trap from taking hold? The most obvious solution is to provide greater educational opportunities for children from less-privileged backgrounds. Universal preschool, for example, is a good place to start. It would also make sense to pay teachers in inner-city public schools who work with less-prepared and more-disruptive students substantially more than we pay those who work in fancy suburbs. By the same token, there's a good case to be made for funding smaller classes in poorer areas, especially in the early grades.

Consider, too, making better use of the summers for disadvantaged children. Much research establishes that kids from poor families fall further behind when school is out of session. Why not lengthen the school year, as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Asia and Europe have done? Or provide vouchers that low-income families can use to enroll their children in educational activities in the summer?

These proposals contrast with Piketty's call for a global wealth tax to offset the forces driving rising inequality. Imposing and coordinating a wealth tax across nations is a political nonstarter. More important to my concerns, the tax would not directly address rising inequality among the bottom 99 percent or do anything to provide more opportunities for those who are falling behind.

Now, before I get carried away, I should also inject a word of caution. *Capital…* notes that deterministic predictions of rising or falling inequality – from Karl Marx to Nobel Prize–winner Simon Kuznets – have been wrong in the past. For example, the Kuznets Curve, which predicts that economic development will first increase income inequality and then decrease it, was long ago shown to be a relic of history by the careful research of Gary Fields of Cornell (which, curiously, is not cited by Piketty). As Fields wrote in 1999: "The Kuznets Curve is neither a law nor even a central tendency. The pattern is that there is no pattern." It is possible that the Great Gatsby Curve will go the way of the Kuznets Curve. Correlation, after all, is not causality.

To that point, it is possible that rapid developments in online education will greatly increase access to education and improve the quality of education. Moreover, the fact that inequality has increased at dramatically different rates in advanced countries over the past three decades suggests that country-specific institutions and policies have considerable ability to blunt or even prevent income inequality from rising. In this regard, one area where much evidence suggests that public policy can narrow the gap is worker bargaining power, such as by raising the minimum wage and tying it to the cost of living or by improving labor's leverage in collective bargaining.

But even if the Great Gatsby Curve does not hold over time, a large body of evidence suggests that the societal benefits of investing more in the education of children from disadvantaged backgrounds exceeds the costs. A global wealth tax, by contrast, is an untested idea without a chance of being adopted – and, if it were, would not adequately address the intergenerational mobility issue.

The global wealth tax would not directly address rising inequality among the bottom 99 percent or do anything to provide more opportunities for those who are falling behind.

Piketty's *Capital…* may vanish from the public's consciousness as abruptly as it arrived. But generations of economists will continue to monitor income distribution for signs of whether his prediction of rising inequality, based on a seductively simple model of why income distribution changes, comes to pass. Piketty's forecast could well prove accurate for the wrong reasons, however – and, as a result, distract us from the core problem.

A vast body of research aimed at explaining rising inequality among the bottom 99 percent implicates the critical role of human capital – not to mention the significance of institutional changes including the fall in the real value of the minimum wage and the decline in union membership. If we lack the determination to address it in the context of the Great Gatsby Curve, the American Dream may turn into a distant memory.

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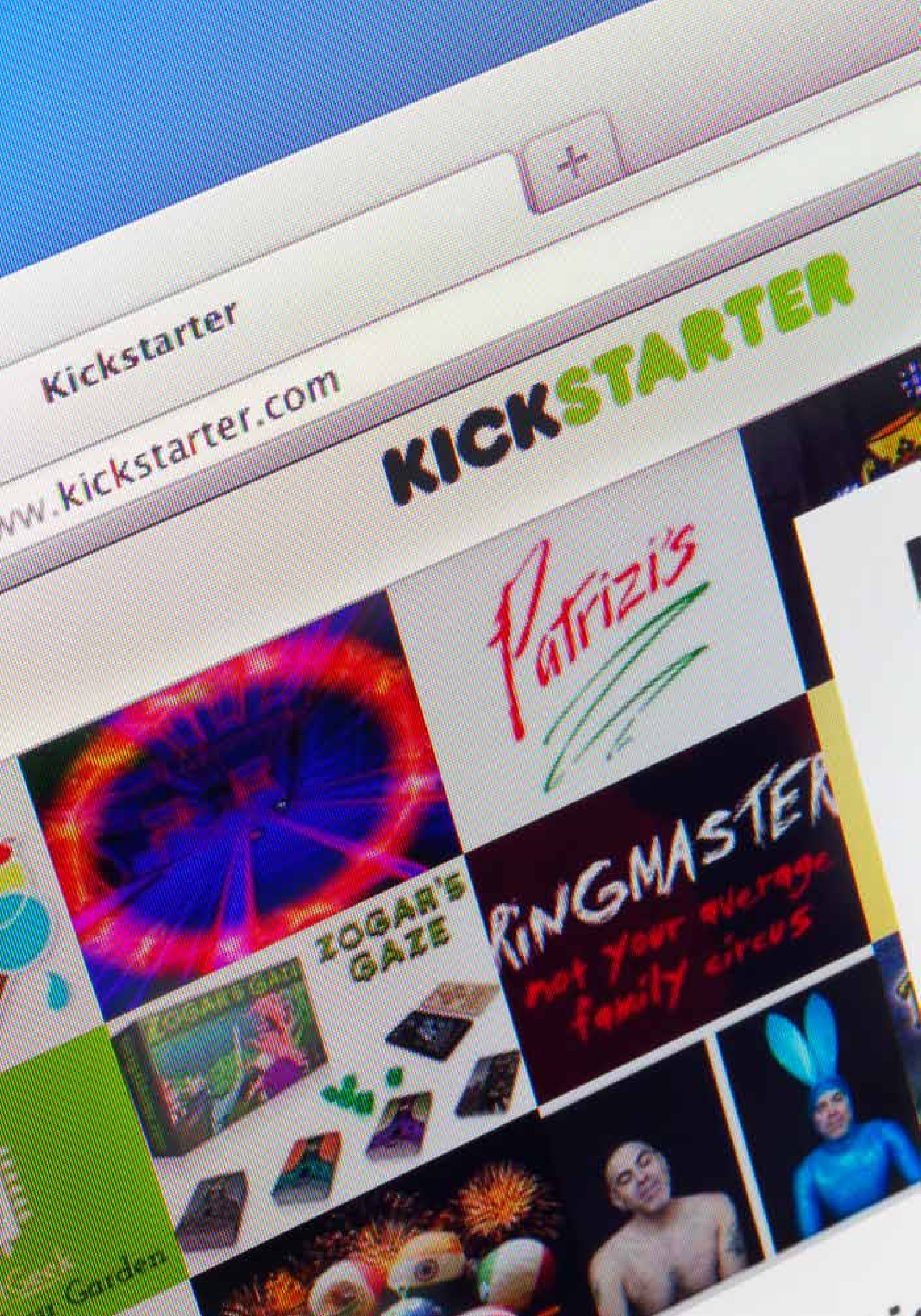

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SME

Small Business Investing With a Populist Twist

BY REENA AGGARWAL, DANIEL GORFINE AND DANA STEFANCZYK

SMEs — short for small- and medium-size enterprises — are everybody's darlings these days, celebrated globally as engines of economic growth. That said, it's not always clear what analysts mean by an SME.

The World Bank defines them by multiple numbers, requiring firms to meet two of three criteria related to employment, assets and annual sales. (Firms too small to be "small," are classified as micro.)

U.S. official statistics cut the deck somewhat differently, classifying small businesses as those with fewer than 50 employees and medium-size enterprises as those with fewer than 500.

AS THE WORLD BANK SEES IT

FIRM SIZE	MAX EMPLOYEES	MAX ASSETS	MAX ANNUAL SALES
Micro	10	$100,000	$100,000
Small	50	$3 million	$3 million
Medium	300	$15 million	$15 million

SOURCE: World Bank

For its part, the International Finance Corporation (the World Bank's arm focused on the private sector in developing countries), forsakes the quantification game for an operational description, viewing SMEs as, "firms whose financial requirements are too large for microfinance, but are too small to be effectively served by corporate banking models."

But no matter how they're sliced and diced by international lenders, fostering development of SMEs is a priority for both developed and emerging economies because they're seen as a primary driver for job creation and GDP growth. According to the Small Business & Entrepreneurship Council, a trade association, SMEs in the United States contribute nearly half of private non-farm GDP and employ nearly half of the private-sector workforce. Moreover, the trade association credits the sector with creating two-thirds of net new jobs in the U.S. economy from the end of the financial downturn in mid-2009 through the end of 2011.

Note, however, the conceptual difficulty of accurately measuring the impact of SMEs on job creation. New firms generally start out small. The successful ones usually expand rapidly and account for a large share of total job growth. Thus, it is important to look at two factors: the employment growth rate and current employment share. Even though many jobs are destroyed when startups go out of business, the net job creation in SMEs is higher than in large firms. In the United States, for example, the net impact of large firms on employment growth is actually negative.

While SMEs generate a much smaller portion of GDP and employment in emerging markets than in high-income, service-based economies, they fill an important niche in the ecology of development since they are both more efficient than micro-enterprises and more dynamic than large firms. They fill out the supply chains of large corporations and create markets in the formal sector for largely underground micro-enterprises. Indeed, they are active at nearly every point in the value chain as producers, suppliers, distributors, retailers and service providers, often in symbiosis with larger businesses.

Critically, SMEs are also drivers of innovation. For example, before Cisco Systems broke into the big leagues of digital technology, it spent the better part of the early 1990s on the Forbes list of America's Best Small Companies.

Less well recognized, SMEs can also facilitate important forms of social engagement and change. In Arab regions of the Middle East and North Africa, for example, women-owned SMEs tend to hire more women than men, narrowing gender disparities. Women also argue (with good reason) there is less potential for harassment in women-owned SMEs. So, increasing the number of female entrepreneurs is likely to expand the role of women in the workforce and foster positive social externalities driven by such participation.

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THE BIG PICTURE

For all the significance of SMEs, few countries have sufficiently broad and deep capital markets to meet their financial needs. In most developed countries, including throughout Europe, the vast majority of business financing comes from traditional banks, which tend to favor lending to large corporations and "national champion" businesses at the expense of SMEs. Capital markets in the United States are regarded as the exception to this rule, given the diversity and depth of non-bank financing options.

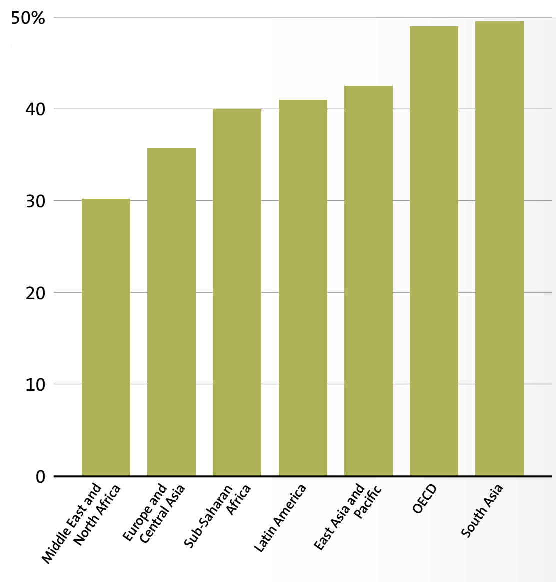
Since the financial crisis in 2008, however, problems with SME financing – even in the United States – have been exacerbated by the further retreat of banks into low-risk lending in reaction to both shareholder anxiety and regulatory pressure. Indeed, the crisis highlighted the reality that financial innovation is needed to ensure that these firms have access to capital.

A lack of viable equity financing options is also problematic, especially for high-growth businesses that lack the cash flow needed to secure credit early in their development. There are only a handful of private equity firms that specialize in emerging market SMEs. And only the largest companies in many emerging economies have access to equity financing by way of IPOs.

Not surprisingly, then, governments, multilateral lenders and markets have pursued new approaches to expanding financing opportunities for SMEs. Here, we survey some of their initiatives. We begin with developments in the United States.

Since the crash, structural changes and the relative decline in community and regional banks coupled with increased risk-aversion, have led to a shortfall in bank lending for SMEs. From its peak in 2008 through 2011, the value of small business bank loans declined by 18 percent. All told, bank lending to small businesses contracted by $100 billion between 2008 and 2011.

SME EMPLOYMENT AS A PERCENTAGE OF TOTAL PRIVATE EMPLOYMENT



SOURCE: World Bank

Meanwhile, lending standards have tightened throughout the banking industry in response to tighter regulatory requirements. The effect of these rules may result in increased costs to banks, which could further reduce lending to SMEs. Moreover, bank consolidation and decreasing engagement with smaller borrowers will likely exacerbate the decline in overall SME lending activity.

On the equity side, a number of factors, including the real and perceived costs of public market participation, have contributed to a decline in IPO activity among smaller firms. Enterprises raising less than $50 million made up nearly 80 percent of the IPO market for most of the 1990s; today those firms account for less than 20 percent.

Early-stage angel and venture capital investors have also become increasingly riskaverse. This reluctance to lend or provide equity has led smaller companies to look for alternative sources of capital – and for both the public and private sector to respond.

Consider first some federal and state-run initiatives that promote SME lending. The Small Business Administration's flagship 7(a) Loan Program offers guarantees on loans issued to SMEs by participating banks, so long as the borrower satisfies certain criteria, and the bank lender complies with stringent SBA loan-compliance requirements. Overall, SBA 7(a) loans totaled about $18 billion in 2013; when combined with a sister SBA loan program, they made up about 4 percent of all loans to SMEs.

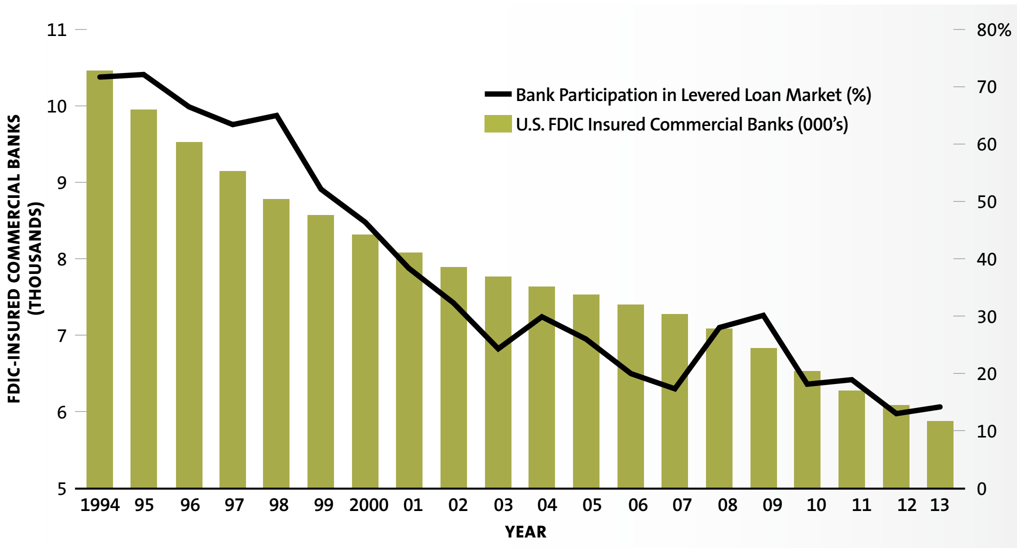
But due to regulatory costs, participation rates among community and regional banks is quite low. They simply lack the scale to build internal teams focused on SBA compliance. State loan programs have attempted to fill this hole. But, unlike the SBA, states cannot back their own guarantees with their own taxing power, limiting both the scope and implicit subsidy value. Little wonder, then, that the U.S. Treasury's $1.5 billion State Small Business Credit Initiative of 2010, which is designed to leverage lending through state-run programs, has only dispersed half of its funds to date – and less than half of that half had been deployed by the states as of December 2013.

The SBA's Small Business Investment Company (SBIC) program, however, is frequently considered the model of a successful public-private partnership. Under the program, the SBA reviews and licenses investment funds focused on SME lending, then provides funds with subsidized loans. In 2013, SBIC-licensed funds loaned more than $3 billion to more than 1,000 small businesses.

One of the more common structures for SBIC-licensed funds today is as a registered business development company. BDCs are a type of investment company mandated to serve small and medium-size businesses. Like more-familiar real estate investment trusts, BDCs are structured as pass-through entities, allowing them to avoid corporate income tax so long as more than 90 percent of all income is paid out to investors. Many BDCs are publicly traded on national exchanges and give retail investors access to SME lending markets, which have traditionally been the domain of banks and private-equity firms.

BDCs have grown in importance as traditional banks retreat from SME lending. As this is being written, there are currently 43 publicly traded and 11 non-traded BDCs in operation; BDC loan balances grew from $15 billion just prior to the financial crisis to over $40 billion in 2013. Contrast those numbers with the state of play in 2003, when there were only three BDCs, with combined assets of about $2 billion. The overall volume of BDC loans will likely increase. Moreover, the continued success of the SBIC-licensing program is likely to ensure that BDCs serve smaller companies within the SME landscape. All this suggests that emerging market countries would benefit

BANK CONSOLIDATION AND MARKET SHARE IN NON-INVESTMENT-GRADE MIDDLE MARKET LENDING



SOURCE: Medley Capital Corporation (2014)

from exploring domestic application of similar BDC models.

Online Lending

The Internet is also primed to play a growing role in small business lending. Innovative companies are building online platforms that combine elements of social networking, automated data analytics and finance in a way that creates an efficient and scalable form of community banking. Indeed, these platforms should allow groups of retail investors and institutional investors to lend to small businesses at rates that are competitive with traditional banks.

"Big Data" analytics is at the heart of the approach, providing new ways to assess creditworthiness of firms. A company called ZestFinance, for example, uses data from thousands of online transactions to offer an underwriting model. Assessments of creditworthiness that do not rely on traditional credit scores, instead using variables such as online reputation and social-media analytics, hold significant promise for SMEs in all countries – notably those lacking traditional credit-tracking infrastructure.

To date, peer-to-peer lending platforms in the United States have concentrated on consumer loans and are now facilitating billions in lending annually. Attention is now turning to small businesses, with industry leader Lending Club recently announcing its entry into the market. And with yield-starved institutional investors lining up to fund borrowers, volume should grow rapidly.

The Internet is serving as a go-between here. In its first year of operation, the BiD Network facilitated 19 matches and total investments of $2.8 million. Matching can also be facilitated through Internet information-exchange platforms, which would mirror the model of peer-to-peer lending organizations by allowing small investors to access online profiles of small businesses with the goal of providing modest sums as loans.

Online lending markets will, however, inevitably run up against regulations that never anticipated this lending model. Additionally, the new credit-risk assessment technologies have yet to be tested by a recession. Last but not least, use of the new technologies may raise questions regarding transparency and fairness. Despite the potential for hiccups, however, the Internet's role in providing capital to small businesses is here to stay in the United States, and, as discussed below, is expanding to foreign markets.

Equity Models

Three factors inform recent developments in equity financing for SMEs in the United States. First, following the financial crisis, traditional equity investors attempted to reduce risk by focusing on more mature companies. At the same time, these investors became more selective about the sectors and geographic regions to which they would commit, leaving many companies behind.

Second, the Internet and other modern forms of communication increasingly proved at odds with existing securities laws restricting the ways companies seeking capital could communicate with the public. And finally, an effort to democratize investment opportunity has gained traction, with a push to permit retail investors to put their money in a sector that historically was only available to high-net-worth individuals and institutions.

This led to the passage of the bipartisan 2012 JOBS Act. The law is best known for legalizing debt and equity crowd investing, a model that builds off of nonfinancial-return crowdfunding made popular by Kickstarter and Indiegogo. Once regulators finalize the rules, companies will be free to raise up to $1 million within 12 months from the general public through qualified Internet platforms. To limit downside risk, investors will be subject to annual investment caps based on their income or wealth. Companies raising capital will be subject to requirements for financial disclosure and investor education, as well as limits on advertising.

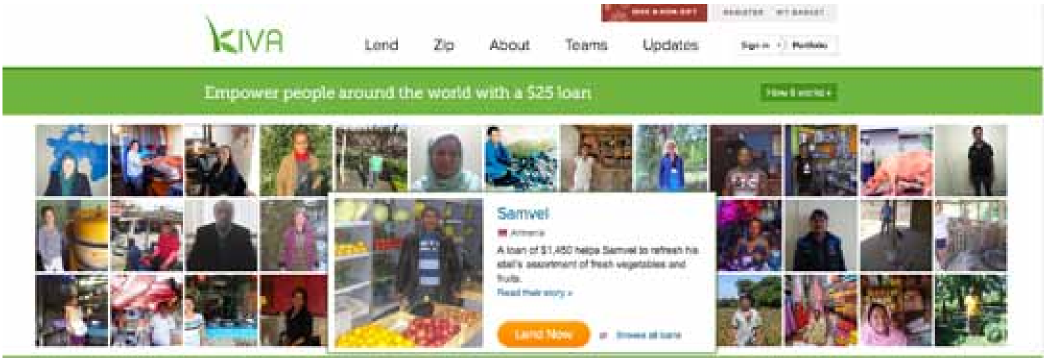
The ease with which individuals can use the Internet to channel funds to promising entrepreneurs and businesses offers countries, rich and poor, a new channel for funding SMEs. Indeed, given major capital access problems for SMEs in Europe, it is not surprising that Italy and the Netherlands are following the path to legalizing crowd investing. Going forward, crowd-investing models may also build on existing microfinance Internet models, such as Kiva, to direct capital to SMEs in emerging markets. Other international crowdfunding platforms include Cumplo in Chile, Ideame in Latin America, OurCrowd in Israel, and Funding Circle in the U.K. and the United States.

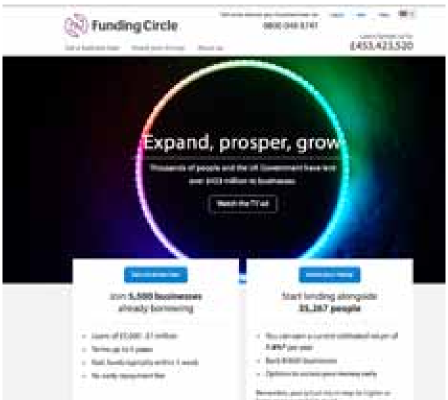
MASS MARKETING OF PRIVATE OFFERINGS

The JOBS Act also changed how private securities offerings could be marketed. Such offerings are exempt from traditional registration requirements in the United States, but could only be advertised to "accredited investors" – that is, wealthy individuals and traditional investment funds.

Now, companies are permitted to market private offerings to the general public, so long as the ultimate buyers are verified to be accredited investors. This allows the use of mass communications including the Internet to access a far broader pool of potential investors. The expectation: added transparency to previously opaque markets, as well as reduced costs in matching investors with small businesses.

On a global scale, the opening of private markets to new Internet-based platforms





could facilitate deeper and more international venture capital and private-equity markets. Additionally, the gradual blurring of the line between online investment platforms, alternative trading systems and exchanges is being hastened by the Internet, and may foreshadow a time where swapping securities in private companies will more readily become an international activity. Global networks that facilitate SME investment could connect SMEs in emerging economies to otherwise inaccessible pools of capital.

Facilitating a Mini-IPO

The decline of small-company IPOs in the United States is easier to document than to explain. While there are numerous contributing factors, many point to an overly burdensome disclosure, compliance and governance regime that renders the costs too high for small-company participation in public markets. The JOBS Act created a streamlined mini-IPO registration process for offerings of up to $50 million with the aim of creating a more realistic balance between investor protection and underwriting costs. Securities sold through this so-called Regulation A+ exemption could be marketed to the general public and resold in secondary markets without restriction.

If finalized by the SEC, the regulatory changes could provide important new capital-raising tools to SMEs. Securities sold in this way could trade on Internet platforms, increasing public participation and liquidity. Some anticipate that large exchanges will develop their own alternative trading systems for smaller companies that would list on their traditional exchanges once they reach sufficient size.

INNOVATIONS IN EMERGING MARKETS

The impact of this new push for alternative SME financing in developed-country markets parallels initiatives in emerging markets. Some examples follow.

Supply-Chain Finance in Mexico

Nacional Financiera, Mexico's multi-purpose government finance agency, created a reverse-factoring initiative to assist high-risk suppliers through their links to large corporate buyers. Once a buyer agrees to pay on the due date, suppliers' accounts receivable are discounted on a non-recourse basis, thus transferring credit risk to the buyer. Two options are available: 1) Factoring without any collateral or service fees, at variable risk-adjusted rates, and 2) contract financing, which provides financing for up to half of contract orders from big buyers, again with no fees or collateral and a fixed interest rate.

Such arrangements are particularly attractive to SMEs, which often supply much larger firms and can borrow based on their buyer's credit rating. In developing countries, where financial information structure is weak, these mechanisms offer a good source of funding. Training and assistance are also provided. As of mid-2009, the program had enlisted 455 big buyers and more than 80,000 SMEs and had extended over $60 billion in credit.

VENTURE CAPITAL IN BRAZIL

The Brazilian government's Inovar program created an SME venture capital market that has since been replicated in Peru and Colombia. It was designed in 2001 by the government's Financiadora de Estudos e Projectos (FINEP) in partnership with the Inter-American Development Bank. Aimed at supporting technology-based SMEs, the program created a platform to share research and information and developed managerial capacity to accommodate VC investments. The portal has some 2,600 registered entrepreneurs and over 200 registered investors. FINEP also created a Technology Investment Facility for investors to analyze VC funds, already used performing due diligence on approximately $165 million in financing. Finally, FINEP has created forums for SMEs to interact with potential investors, resulting in 45 SMEs receiving more than $1 billion in funding.

Crisis Funding in Turkey

The Union of Chambers and Commodity Exchanges of Turkey (TOBB), an association representing broad business interests in that country, created the TOBB Support Program in 2001. It brings together local chambers of commerce and commodity exchanges to support SME exporters during (alas, too frequent) financial crises. Funds from TOBB and its members create pools that provide

IMAGINECHINA

Alipay employs transaction and payment data instead of third-party credit information to assess risk, making it possible to offer small loans at acceptable cost.

loans to SMEs at below-market rates. As of 2010, the program facilitated $813 million in funding to over 33,000 SMEs.

Financing Women-Owned SMEs in Nigeria

The Enterprise Development Centre at Pan-Atlantic University has teamed with Nigeria's Fate Foundation and the IFC on a program to support women-owned SMEs. It offers advisory services to financial institutions that promote women entrepreneurs, coordinating efforts with the IFC to support credit for women-owned SMEs. From 2006 to 2010, the program loaned some $35 million and trained nearly 700 women.

Lending and Equity Funding in China

Alipay Financial was launched in 2010 by the giant Chinese e-commerce platform Alibaba. Alipay, a micro-credit company, offers loans from its own cash resources to SMEs that use its e-commerce service. The company employs transaction and payment data instead of third-party credit information to assess risk, making it possible to offer small loans at acceptable rates. One-month working capital advances of up to RMB 500,000 (about $80,000) were initially provided to fund sales via Taobao, Alibaba's online marketplace. The company has since expanded and has begun offering a wider range of financial products. Larger loans are offered to groups of three

SMEs acting as guarantors for each other. Later, Alipay Financial began originating loans on behalf of China Construction Bank and the Industrial and Commercial Bank of China to expand its lending capacity. In the first two years, Alipay Financial had made loans worth approximately $2 billion.

In this case, China is leading the United States and Europe, where similar alternative financing mechanisms have been started. With little fanfare, Amazon has begun to offer loans – up to $800,000 – to affiliated suppliers. Meanwhile, the mobile payment company Square is now customizing loans to vendors that use Square's payment system, employing the merchants' payments data to measure credit risk. These developments are closely related to the peer-to-peer online lending models discussed above.

Lending and Mobile Payments in Africa

Traditional loans in lightly banked Africa can take at least six months to be approved – if at all.

Services such as M-Shwari, a product of the M-Pesa mobile-phone-based money transfer system, have added loan options. M-Shwari has partnered with the Commercial Bank of Africa to offer sums up to the equivalent of $235. This service has greatly increased bank account creation at CBA, adding two million accounts in three months and making it the second-largest retail bank in Kenya. Some six million Kenyans have used the service, with M-Shwari experiencing default rates of less than 3 percent.

As smartphones are increasingly being used to accept payments, banks are increasingly distanced from the payment process.

SMEs often have limited infrastructure and need to accept credit card payments on the go. Companies like iZettle and Square enable customers to accept credit card payments on smartphones and tablets through swipe technology. As smartphones are increasingly being used to accept payments, banks are increasingly distanced from the payment process. Some banks, such as OCBC Bank in Singapore, have chosen to get in the game: OCBC created an app for customers to scan barcodes, obtain billing details and make payments with merchants.

In Africa, the remarkable penetration of mobile phones has enabled users to transfer funds without the benefit of brick-and-mortar banks. M-Pesa (referred to above) had approximately 20 million users in 2013. It is now operated by Vodafone, which has also made the service available in India and Afghanistan. But M-Pesa has competition from, among others, EcoCash and Textacash in Zimbabwe.

GENERAL INNOVATIONS

In addition to country-specific programs, financial technology promises to increase the efficiency of markets for SMEs on broad fronts.

Risk-Adjusted Investment Return

Investors frequently complain that expected returns on SME investments are insufficient when adjusted for risk. A variety of fixes may apply here. Larger scale for investment funds can make a difference, allowing overhead to be spread thinner. By the same token, funds can share technologies or apply their expert analysis to broader geographic regions.

There may also be room here for technical assistance (public, philanthropic or even for-profit) that generates economies of scale and scope. Technical assistance is expensive, but may generate a big bang for a buck. Note, however, it can be difficult to sustain funding if the investors have no profit stake.

To encourage banks to supply more capital to SMEs, governments may provide guarantees to lenders that cover a portion of their potential losses – akin to the SBA lending programs in the United States. Guarantees can also decrease currency risk by basing payment in a stabler foreign currency. Shared Interest, a New York-based nonprofit, offers guarantees to a variety of lenders in South Africa that (among other objectives) supply credit to SMEs. The nonprofit has been pleasantly surprised by how much leverage such guarantees can provide.

Exit Mechanisms

In emerging markets, exiting SME investments can be difficult, discouraging investors in the first place. One approach, then, would be to design exit-finance facilities. The Overseas Private Investment Corp., a U.S. government agency, is developing a self-sustaining exit vehicle to make capital available to principals or third parties to buy out other investors. SMEs contribute some capital to the exit fund, and OPIC or another financial institution would provide the balance. Again, note that the goal is for the fund to be self-sustaining; the facility would only fund buyouts expected to be financially viable.

A second approach would be to make use of a permanent capital vehicle – an investment entity with an indefinite time horizon like a pension fund – to facilitate investor exits. One format would be similar to the business development companies in the United States. Shares of the fund would be liquid and could be readily traded, facilitating investor exit. Another format would be similar to a mezzanine buyout fund. Investors could sell their equity interests into this structure, which would generate ongoing income for the investors from a diversified portfolio.

Finally, exit deals could be based on royalties. Business Partners Ltd., a financial group specialized in SMEs in South Africa, has pioneered this approach, providing entrepreneurs the capital to buy out their co-investors in return for a percentage of future sales. This allows the entrepreneur to control the business even as it gives Business Partners a far more predictable flow of income than could be had from a formula based on shared profits.

* * *

While the global financial market meltdown demonstrated the potential for damage from finance gone awry, efficient capital markets remain a prerequisite for sustained economic growth. And nowhere is their inefficiency felt more than in small- and medium-size enterprises – most critically, in developing economies that lack alternatives to traditional bank finance.

That's why the emergence of alternative financing platforms for SMEs – in particular, those that exploit the low overhead of the Internet – is cause for celebration.

This revolution in finance will certainly not take place without hiccups, especially before regulation appropriate to the new institutions is refined. But make no mistake: the failure to nurture new ways to allocate capital to small businesses would be an error of grave proportions.

RETHINKING American

A decade ago, Ross Douthat and I wrote "The Party of Sam's Club," an essay in the *Weekly Standard* on how Republicans should think about the post-Bush era. A few years later we published *Grand New Party*, a book that elaborated on the same broad themes. We argued that the political right had failed to reckon with the many ways the country had changed, that the conservative domestic agenda-as-usual was not suited to an age of fragile families, ongoing immigration, global economic integration and a widening gap between the wages of the skilled and less-skilled. Of course, we were hardly alone in this regard. Many conservatives before and since have warned that the Grand Old Party was threatened by ideological sclerosis or that the "Southernization" of the party – its turn toward a more hard-edged conservatism and assertive nationalism – would lead to its marginalization and eventual downfall.

Conservatism

BY REIHAN SALAM

But our critique was somewhat different. We maintained that social conservatives were right to be alarmed by the transformation of the American family, and in particular by the growth in single-parent families. To the extent we made a distinctive contribution to the policy debate on the right, it was our insistence that the concerns of social conservatives should animate the right's domestic policy efforts.

Many conservative thinkers of the time embraced "upper-middle-reformism," a strategy designed to reduce the Republican Party's dependence on non-college-educated white voters, who were so essential to the Bush coalition, by appealing to more educated and affluent voters with a mix of social liberalism and economic conservatism. We, by contrast, made the case for "lower-middle-reformism," or pursuing a more populist agenda that would seek to deepen support for Republicans among middle-income and aspirational voters from all backgrounds.

There were, in hindsight, many lacunae in *Grand New Party*. We understated both the risks of depending on debt to finance the aspirations of middle Americans and the extent to which the immigration-fueled transformation of the American working class had reshaped the economic and cultural landscape. Though we anticipated the crushing defeat of Republicans in 2008, we failed to appreciate the extent to which the housing bust would devastate debt-burdened families. Yet we did help spark a conversation, which has been greatly enriched by the intellectual leadership of Yuval Levin, the editor of *National Affairs*, Ramesh Ponnuru of *National Review*, and many others who've since been identified as "reform conservatives."

One could argue that the modifier is redundant, as conservatives have always thought of themselves as reformers, where reform is distinguished from either revolutionary change or technocratic central planning. But the term is not without uses. It has come to identify an important body of thinking on the right – one that accepts and even embraces the need for a social safety net, yet calls for its modernization and renewal; one that celebrates not just the successful entrepreneur, but the worker striving to support a family; one that recognizes the communitarian as well as the individualist aspects of the American character and that favors the melting pot over multiculturalism.

Reform conservatives disagree among themselves on many issues, from same-sex marriage to immigration to the specifics of tax reform. What follows is an imperfect attempt to distill how reform conservatives more or less see the economic and social landscape, and how this perspective shapes our thinking on domestic policy.

THE MONETARY POLICY ALTERNATIVE

If Republicans in the Obama era have been known for anything, it is for their opposition to deficit spending, which surged as the economy sputtered in the aftermath of the 2008 financial crisis. Most of the increase in the budget deficit could be attributed to "automatic stabilizers" – spending on safety net programs that automatically kicked in as unemployment rose and as household incomes fell. However, President Obama and his Democratic allies also took affirmative steps that further increased the deficit in that period, some of which were wiser than others.

One suspects that had Democrats taken a different approach in fashioning the 2009

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fiscal-stimulus package – had they, for example, funded a surge in defense expenditures to recapitalize a military still engaged in Iraq and Afghanistan, or had they substituted a much larger investment tax credit for increased domestic spending – more Republican lawmakers would have joined forces with them. But that is water over the dam. The fight against fiscal expansion became a rallying point for the right, and contributed to the rise of the Tea Party movement.

In the 2010 midterm elections, Republicans campaigned against rising federal deficits in general and the Democrats' health reform push in particular, warning that both would ultimately prove disastrous. Now, as the economy recovers and as federal deficits continue to shrink (at least until the wave of retiring baby boomers crests), this emphasis on deficits above all else looks shortsighted. Republicans were right to criticize the particulars of the American Recovery and Reinvestment Act, and they were right to oppose Obamacare. Yet their larger approach to America's post-crisis economic woes was misconceived.

According to Ponnuru and David Beckworth, an economist at Texas State University, the chief problem with the Republicans' macroeconomic policies in the post-crisis years is that they've coupled calls for rapid fiscal

Many of the constituencies that suffered the most from the recession and the stagnation that followed are not part of the aging, middle-income and disproportionately white Republican coalition, so their interests were given short shrift in intraparty debates.

consolidation with fervent opposition to monetary stimulus, which they've warned would lead to an inflationary spiral. Beckworth and Ponnuru insist that the Fed ought to have done even more – specifically, that the Fed ought to have announced that it would buy securities on the open market (commit to what the Fed calls "quantitative easing") until nominal GDP reached a target level and thereafter used aggressive securities-market transactions to keep nominal GDP growth on a predictable path.

Beckworth and Ponnuru were not the only observers to favor this approach to macroeconomic policy. The idea of targeting NGDP rather than the inflation rate, interest rate or supply of money goes back at least as far the writings of two Nobel economists, James Meade and James Tobin. But their arguments proved particularly influential among reform conservatives. Had the Fed kept nominal spending growth on a predictable path, Beckworth and Ponnuru argue, the goal of fiscal consolidation would have been much easier

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to achieve, as higher nominal incomes would have kept more workers employed and more homeowners afloat, thus reducing the pressure to increase demand through government transfer payments.

Skeptics argue that NGDP targeting of the kind championed by Beckworth and Ponnuru is much easier said than done, and that, in any case, it is no panacea. That might be true. What is also true, though, is that successful fiscal retrenchment efforts in Canada and Sweden were accompanied by the sort of accommodative monetary policy that American conservatives generally oppose.

Republican economic prescriptions often seemed timeless in the Obama era, and in a bad way. By emphasizing tax cuts, deregulation and balanced budgets – the same policies they favored in better times – the Republicans ignored the particularities that made deficit spending a less-pressing problem than mass unemployment, and they allowed chimerical fears of runaway inflation to outweigh the very real threat of deflation.

Embracing monetary stimulus would have given the right a coherent way to favor fiscal consolidation while also acknowledging that the weakness of the post-crisis economy demanded some form of government stimulus. Calling for monetary expansion and, say, a much deeper temporary payroll tax cut, like the one proposed by the Stanford University economist (and former advisor to the Bush I administration) Michael Boskin, would have put the Republican Party in a much better position both substantively and politically. Instead, Republicans offered little more than homilies about government thrift and the need to set business free to the voters most directly affected by the dismal state of the labor market.

To some extent, this reflects the fact that many of the constituencies that suffered the most from the recession and the stagnation that followed – low-income African-Americans and Latinos, workers with high school diplomas or less, 20-somethings – are not part of the aging, middle-income and disproportionately white Republican coalition, so their interests were given short shrift in intraparty debates. Whatever the reasons for this failure, reform conservatives have been attuned to it, and have called for a domestic policy that looks beyond the interests of the current Republican Party base with an eye toward expanding it.

BUFFERING GLOBALIZATION

Long before the crisis, policymakers on both the right and left tried to make sense of global economic integration and how it would affect people with modest skills in highly industrialized market democracies like our own. Conservatives, including reform conservatives, favor free trade in goods and services. But policy decisions help to determine whether and to what extent low- and middle-income households benefit from free trade, and the United States has all too often made the wrong ones.

When we talk about "globalization," most people have in mind competition between companies and between countries. This reflects a profound misunderstanding of how the global economic integration of recent decades differs from what came before it. The truly novel thing about globalization is not that different parts of the world are trading with each other, or, indeed, that different parts of the world are trading with each other quite a lot. Rather, as the Brown University political scientist Edward Steinfeld observes in his 2010 book, *Playing Our Game*, the current round of globalization is distinctive because it depends on the creation of complex supply chains woven across multiple countries. Garment manufacturing was one of the

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first industries to be transformed by these multi-firm, multinational networks, with workers in one country making the yarn, workers in another country dyeing it, workers in yet another country weaving fabric and stitching together clothing and workers in still another branding and selling the finished goods. (Suffice it to say, I am greatly understating the convoluted nature of these networks.)

As many production processes have been "de-verticalized," we haven't seen a free-for-all in which every firm that contributes has equal say in what is made and where. As Steinfeld points out, "in the networked world of global production, there inevitably arise lead firms and follower firms, rule makers and rule takers." There is a reason why U.S.-based Apple reaps the bulk of the profits from sales of the iPhone while the nuts-and-bolts work of assembling the devices is largely done in East Asia. By controlling the highest-value components of the global supply chain – the branding, the creation of intellectual property – Apple occupies the most privileged position in this new, more-dispersed hierarchy of production.

So while it is widely assumed that, as China and other emerging economies command a larger share of global production, American economic power must decline, the reality is more complicated. Writing in *New Left Review*, Sean Starrs, a political scientist at the City University of Hong Kong, notes that U.S. multinationals still hold the highest profit shares in 18 of 25 major industrial sectors and a dominant position in 10 of them.

This doesn't change the fact that other countries are growing more prosperous and in some sense more powerful. But the fact that U.S. multinationals (whose ownership is generally concentrated in American hands) are at the top of the food chain tells us something, too – namely, that the rise of global production networks has greatly enriched Americans. The catch: it has done so very unevenly.

By controlling the highest-value components of the global supply chain, Apple occupies the most privileged position in this new, more-dispersed hierarchy of production.

To be sure, virtually all U.S. households benefited from the lower prices generated by rising competition from China. Yet it's not clear that these benefits outweighed the costs for non-college-educated adults. Three economists, David Autor of MIT, David Dorn of the University of Zurich and Gordon Hanson of the University of California at San Diego, found that between 1990 and 2007, regions that were home to manufacturers competing with Chinese imports experienced higher unemployment, lower labor-force participation and reduced wages. Not surprisingly, government transfer payments to households in these regions soared.

Some economic dislocation is inevitable as we move toward freer trade, and the costs associated with a protectionist stance might have been higher still. But the severity of the decline in manufacturing employment was eminently avoidable without embracing tariffs or other barriers to trade.

Ryan Avent, the economics correspondent of *The Economist* magazine, points out that between 1990 and 2002, the dollar effectively appreciated by half, sharply increasing relative unit labor costs in the United States. This spike alone accounts for much of the decline in manufacturing employment. Had Washington intervened in foreign-exchange markets to dampen dollar appreciation, it is at least possible that U.S. manufacturing employment wouldn't have deteriorated so sharply, thereby giving large numbers of American businesses and workers the breathing room to retool and retrain. De-verticalization wouldn't have been halted, nor should it have been. But firms employing less-skilled Americans would have been in a much better position to compete.

However, for whatever reason, the devastation wrought by dollar appreciation wasn't enough to motivate U.S. policymakers to act. Instead, we saw a series of related policy initiatives that fueled a housing boom – a sector not susceptible to foreign competition. This boom generated considerable employment growth for the less- and mid-skilled, masking the effects of the decline in manufacturing jobs. As we've all learned, though, allowing the economy to become so reliant on housing construction proved short-sighted.

While recognizing that decisions about

offshoring and insourcing should be left to markets, reform conservatives would be inclined to respond forcefully to mercantilist currency interventions – most notably, China's efforts to keep its currency cheap in order to protect its manufacturers. They'd also be mindful of the need to make the United States a more attractive destination for foreign direct investment that boosted job prospects.

One promising proposal touted by Ponnuru and others would scale back the tax break for corporate interest payments, which encourages dangerously high levels of debt leverage, and use the revenues to cover the cost of allowing businesses to write off the full cost of tangible investments in the year they are made. The idea is not to craft a soup-to-nuts industrial policy. Rather, reform conservatives recognize that in the age of de-verticalization, we need policies that make front-line workers more productive and competitive and that don't just enrich managers and shareholders.

RETAKING THE COMMANDING HEIGHTS

In a 2011 *National Affairs* essay, Arnold Kling and Nick Schulz argued that whereas the "commanding heights" Vladimir Lenin alluded to in 1922 were energy and heavy manufacturing, the new commanding heights in the rich market democracies were education and health care – both of which employ large and growing shares of the American workforce. Both, notably, are dominated by government, have experienced anemic productivity growth for decades and are plagued by all manner of dysfunction. If the U.S. economy is to experience robust, broad-based economic growth in the future, it is these sectors that will have to be transformed, and it is these sectors to which reform conservatives have devoted the lion's share of their attention.

The domestic-policy initiatives backed by reform conservatives are animated by a set of common principles that de-emphasize the role of government. Whereas the left prefers to tackle social problems through centralized means directed by experts, reform conservatives prefer a decentralized approach in which the families, communities, businesses and civic institutions closest to the problems are empowered (with public subsidies if needed) to address them as they see fit. The goal of reform conservatives, as the public intellectual Yuval Levin puts it in his essay, *Room to Grow*, is "to transform the first sort of public policy or program into the second, and so to move from the model of consolidated technocracy toward the three-part process of dispersed, incremental learning in one policy area after another."

Primary and secondary education is a useful example. A key to making the American workforce more productive and competitive is to make the institutions we charge with building human capital more productive and competitive. Conservatives have long celebrated the virtues of school choice, and in particular of school vouchers. Yet they've largely failed to address other, equally important shortcomings for the kindergarten-through-12th-grade education system, like the need to attract and retain effective educators, to incubate new instructional models and to make schools and courses more cost-effective.

Frederick Hess of the American Enterprise Institute, a leading light among reform conservatives, has emphasized that school choice alone is unlikely to effect change in K-12 education. What's needed, he argues, is an education system that is friendlier to organizational innovation. To that end, he has called for K-12 spending accounts – which parents and students would use to "purchase" various courses. Those who selected low-cost options would be able to devote the surplus resources to en-

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A key to making the American workforce more productive and competitive is to make the institutions we charge with building human capital more productive and competitive.

richment programs, college savings, tutoring services or other educational goals.

This approach would encourage cost-consciousness, and it would give schools a clearer sense of where they should be devoting resources. Moreover, instead of having to build entirely new schools from scratch, course-level instructional choice of this kind would allow entrepreneurs and teachers to specialize in creating the best and cheapest course in, say, calculus or Mandarin, using online methods or traditional face-to-face instruction, or some combination of them.

Hess has also urged conservatives to ensure that, even as they oppose teachers' unions, they make common cause with teachers, many of whom share their hostility to heavy-handed regulation. One of the chief problems Hess has identified in K-12 education is that although federal dollars represent a small fraction of total spending, the compliance burden associated with federal subsidies forces the hands of state governments and local school districts, which in turn micromanage teachers and principals. There are reforms that Republicans could pursue at the state level that would be embraced by many teachers. For example, Hess has proposed that teachers deemed above average in effectiveness be allowed take on more students in exchange for more pay, a measure that would have the effect of raising the average quality of teaching for students while reducing costs for taxpayers by raising class sizes.

In a similar vein, Hess' American Enterprise Institute colleague, Andrew P. Kelly, has offered an ambitious tertiary education reform agenda. Recognizing that existing higher-education institutions do a poor job of meeting the needs of non-traditional students – older adults, immigrants and second-generation Americans, students who often are in need of remedial education – Kelly calls for more transparency on educational and labor-market outcomes. The goal is first to ensure that students don't enroll in expensive degree programs that leave them with few marketable skills and second to encourage less incumbent-friendly, more innovation-friendly approaches that would allow new sorts of schools to thrive. Hess and Kelly exemplify reform-conservative policymaking at its best: they recognize the importance of decentralization, free markets and creating space for innovation, yet they also recognize that because the K-12 and higher-education sectors are so heavily subsidized, cosseted and dysfunctional, making them more dynamic and demand-responsive would require a nuanced approach.

Reforming the health sector is an even more daunting challenge. We take as a given that a large share of government transfers to low-income households will be in the form of health benefits. This is despite the fact that many poor families might prefer to spend an extra few thousand dollars on better housing or on educating their children.

Why might this be the case? The mystery is easily solved when we consider the outsized political influence of medical providers, and, in particular, of the monopolistic hospitals that play such a large role in the life of many American cities. Barak Richman of Duke Law School, a student of the concentration of market power in the health care sector, has documented the various ways that locally dominant medical providers stymie competition from more efficient entrants.

James Capretta, a veteran of President Bush's Office of Management and Budget and the architect of the chief conservative alternatives to Obamacare, has described the ways in which fee-for-service Medicare has made it harder for employers and consumers to use their purchasing power to make medical providers more efficient. Capretta's central objection to Obamacare has been that instead of addressing the most egregious failures of the existing health system – the relentless growth in costs, the lack of competition in provider markets, the poor outcomes delivered by the Medicaid program – it actually exacerbates them.

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And so Capretta, along with Levin and Ponnuru, among others, has called for expanding access to insurance via very different means. First, the tax subsidy for employer-provided insurance (it's now a tax-free perk) would remain in place, but it would be capped, both for reasons of fairness and to generate revenue. Second, those who do not receive health insurance through their employers would receive a fixed subsidy in the form of a refundable tax credit to purchase their own coverage. Third, Medicaid would eventually transition into an additional payment on top of this credit to ensure that low-income beneficiaries could purchase high-quality care. Fourth, Medicare would place its traditional fee-for service and the private Medicare Advantage plans on a more level playing field. The goal, of course, is to facilitate the shift to consumer-driven coverage and greater competition among providers, which would make the health care industry more responsive and less burdensome for middle-income families, without more direct involvement from the Feds.

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IN THE FAMILY WAY

Reform conservatives are united by the conviction that, as the sociologist W. Bradford Wilcox has long argued, the retreat from two-parent child-rearing among lower-income Americans has had profoundly negative consequences for children. While the vast majority of college-educated adults are in committed relationships before starting families, a large and growing number of non-college-educated adults are not.

It is an oversimplification to suggest that the problems facing low-income families would all be solved if parents lived together. The fathers in question are often ill-suited to playing a constructive role in family life, whether because of the deteriorating position of less-skilled men in the labor market or deep-seated behavioral problems that marriage alone can't solve.

That said, other factors being equal, children raised in intact, two-parent families have considerable advantages over their counterparts who do not.

As adults, they tend to reach higher levels of educational attainment and to command higher wages. One important wrinkle, highlighted in an influential report by the economists David Autor and Melanie Wasserman, is that girls raised by single mothers fare much better in educational and labor market outcomes as they reach maturity than boys raised the same way. But, of course, this is part of why women living in the communities most affected by this postmarital transition often find it difficult to find marriageable partners. And so the cycle continues.

Some students of changing family norms, led by Isabel Sawhill of Brookings, have suggested that rather than emphasizing the importance of marriage, an institution that is increasingly seen as the sole preserve of the educated and affluent, we at least ought to be encouraging delayed childbearing in order to give young women more time to build stable lives for themselves. Others insist that a marriage-first approach is still the right way to go. Either way, there is widespread agreement that the economic implications of what scholars call family disruption are very serious indeed.

Though there are no silver bullets for addressing family breakdown, reform conservatives favor vigorous policy efforts in this domain. Some are relatively uncontroversial, like eliminating marriage penalties in the tax code and in government benefits programs. But others are more polarizing, like accepting higher marginal tax rates for the affluent in order to fund more generous child credits. One of the most encouraging developments of recent years has been the embrace of criminal-justice reform on the right, a cause that has the potential to do a great deal of good for fragile families.

Precisely because reform conservatives accept that a well-constructed social safety net is essential to a thriving free-enterprise economy, many have grown more skeptical of the virtues of large-scale immigration. The average skill level of America's foreign-born population is far lower than that of its native-born population.

Among the world's rich market democracies, the United States is distinguished by the large number of adults who suffer from low levels of literacy and numeracy – and this is largely attributable to the skill profile of our immigrant population. There are, to be sure, many highly skilled immigrants in the United States, most of whom assimilate successfully. But less-skilled immigrants, and their children, tend to remain on the margins of the economy.

Advocates of less-skilled immigration often note that less-skilled immigrants complement, rather than compete with, less-skilled natives, in part because less-skilled natives are proficient in English. What this argument neglects, however, is that newly arrived less-skilled immigrants compete with previously arrived less-skilled immigrants, and the United States is already home to large numbers of the latter.

Protecting the economic interests of this vulnerable population is a high priority for reform conservatives, which is why they often gravitate toward a distinctive position in the immigration debate. They support high-skilled immigration, as high-skilled immigrants make large net contributions to public coffers. But they oppose low-skilled immigration, as these immigrants (and their children) require substantial assistance if they are to enter the economic mainstream. This position is very different from that of left liberals who favor large-scale, less-skilled immigration on humanitarian grounds. But it is also different from that of libertarians, who generally support opening the border to less-skilled immigrants provided they are barred from public assistance – a stance that neglects the fact that the children of less-skilled immigrants will be a central part of the future U.S. workforce.

* * *

Nobody has all the answers, certainly not reform conservatives. But the reformers are offering America something that neither liberals nor, for that matter, the Republican establishment, can: promising solutions to the daunting problems of an environment in which America's prosperity and social stability can no longer be taken for granted.

House of Debt

BY ATIF MIAN
AND AMIR SUFI

With hindsight, it's clear that the failure to force the rapid unwinding of mortgage debt in the wake of the housing crash delayed recovery from the Great Recession – as well as devastating millions of homeowners who lost their savings and, all too often, their jobs. In the widely acclaimed book, *House of Debt*,* Atif Mian of Princeton and Amir Sufi of the University of Chicago take the argument a giant step further, focusing on the economy's problematic dependence on debt to finance everything from corporate investment to student loans. ¶ Traditional debt contracts, they point out, force borrowers who can least afford it to bear most of the risk of macroeconomic volatility. The direct consequence, of course, is the misery faced by debtors who can't meet their obligations when the economy heads south. Worse, individuals' risk translates into greater collective volatility, feeding asset bubbles and deepening the business cycle. The chapter excerpted here lays out a clear case for rebalancing risk between lender and borrower – and, alas, why reform is so difficult. — *Peter Passell*

ISTOCK

**Reprinted with permission from* House of Debt: How They (and You) Caused the Great Recession, and How We Can Prevent It from Happening Again *by Atif Mian and Amir Sufi, published by the University of Chicago Press.*

The college class of 2010 had little time to celebrate their freshly minted diplomas, as the recession smacked them with the harsh reality of looking for jobs in a horrible labor market. At the time, the unemployment rate was over 10 percent for new graduates. When they'd entered college in 2006, none of them could have predicted such a disastrous situation. Since 1989, the unemployment rate for this generally privileged group had never exceeded 8 percent.

Actually, the bleak jobs picture threatened the livelihood of recent graduates for another reason: many left college saddled with enormous debts. Driven by the allure of higher salaries, Americans borrowed heavily to go to college. Outstanding student loan debt doubled from 2005 to 2010, and by 2012 exceeded $1 trillion. The Department of Education estimated that two-thirds of bachelor's degree recipients borrowed money from either the government or private lenders.

Unfortunately for the 2010 graduates, debt contracts don't care what the labor market looks like when seniors matriculate. Regardless of whether a graduate can find a well-paying job, creditors insist on payment. Student debt guaranteed by the federal government is especially pernicious in this regard because it cannot be discharged in bankruptcy: Washington can garnish wages or withhold tax refunds to ensure it is paid.

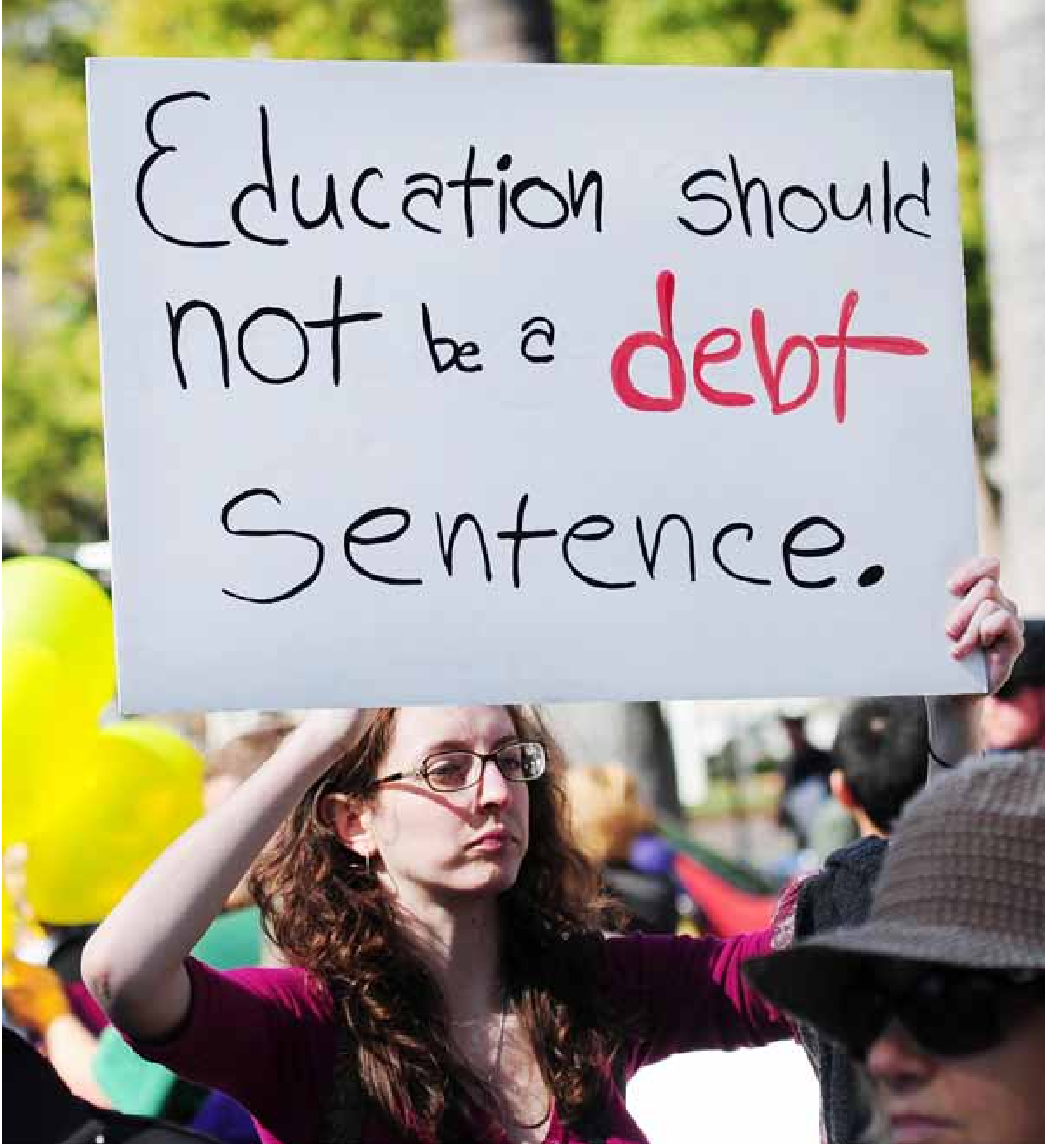
The combination of unemployment and the overhang of student debt undermined demand just when the economy needed it most. Recent college graduates with large debts delayed major purchases, and many were forced to move back in with their parents. Ezra Kazee, an unemployed graduate with $29,000 in debt, summed it up. "You often hear the quote that you can't put a price on ignorance," he said. "But with the way higher education is going, ignorance is looking more and more affordable every day."

THE RISK-SHARING PRINCIPLE

The student debt debacle is another example of the financial system failing us. Despite the high cost of a college degree, most economists agree that it is worth the investment because of the wage premium it commands. Yet young Americans increasingly recognize that student debt unfairly forces them to bear a large amount of economic risk.

This makes no sense. College graduates were thrown into dire circumstances just because they happened to have been born in 1988, 22 years before the most disastrous labor market in recent history. Why should they be punished for that? Rather than facilitate the acquisition of valuable knowledge, a financial system built on debt increasingly discourages college aspirations.

Both student debt and mortgages [discussed in detail earlier in the book] illustrate a broader principle. If we're going to fix the financial system – if we are to avoid the painful boom-and-bust episodes that are becoming all too frequent – we must address the key problem: the inflexibility of debt contracts. When someone finances the purchase of a house or a college education, the contract he signs must allow for some sharing of the



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downside risk. Repayment must be made contingent on economic outcomes; it must resemble equity more than debt.

This principle could be applied easily in the context of education. Student loan terms should be made contingent on the state of the job market at the time the student graduates. For example, in both Australia and the United Kingdom, students pay only a fixed percentage of their income to cover their loans. If a student cannot find a job, he or she pays nothing. For reasons we will discuss, we believe a better system would make the loan payment contingent on a broader measure than the individual's income. But the principle is clear: recent graduates should be protected if they face a dismal job market. In return, though, they should better compensate the lender if they do well.

This is not a radical leftist idea; even Milton Friedman recognized problems with student debt. Friedman's proposed solution was similar to ours; he believed that student-loan financing should be more "equity-like," with

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payments automatically reduced for graduates in a weak job environment.

Making financial contracts in general more equity-like means better risk-sharing for the entire economy. When house prices rose, both the lender and borrower would benefit. Likewise, when house prices crashed, both would share the burden. This is not about forcing lenders to bear all downside risk. It is about promoting contracts in which both lenders and borrowers benefit from the upside and bear some cost on the downside.

Financial contracts that share more of the risk would help avoid bubbles and make market crashes less severe. Debt facilitates bubbles by convincing lenders that their money is safe, leading them to lend to optimists who bid asset prices higher and higher. Thus, if lenders were forced to take losses when the bubble popped, they would be less likely to lend into the bubble in the first place.

Note, too, that if financial contracts were written this way, lenders with deep pockets would bear more of the pain in a crash. But since their spending would be less affected, the demand shock to the economy would be smaller. In the context of housing, a more equal sharing of losses would also help avoid the painful cycle of foreclosures.

In an earlier chapter, we advocated policies that would help restructure household debt when a crash materialized. But intervening after the fact requires political will and popular support, both of which are absent during a severe recession. The contingent contracts we propose here would automatically accomplish the goal without undermining incentives to honor the contracts. Had such mortgage contracts been in place when house prices collapsed, the Great Recession would not have been "great" at all.

This is not about forcing lenders to unfairly bear all downside risk. It is about promoting contracts in which both lenders and borrowers benefit from the upside and bear some cost on the downside.

SHARED-RESPONSIBILITY MORTGAGES

A conventional mortgage forces the borrower to bear the full burden of a decline in the house's market value until his or her equity is completely wiped out. A shared-responsibility mortgage (SRM) has two important differences: the lender offers downside protection to the borrower, while the borrower gives up a portion of any gain in house value to the lender.

Consider a homeowner, Jane. She makes a $20,000 down payment to buy a house selling for $100,000, leaving her with a mortgage of $80,000. Suppose the market value drops to $70,000. In a standard, 30-year fixed-rate mortgage, Jane loses all of her home equity, which was probably most of her savings. She faces two choices at this point. She can give the keys to the house back to the bank, or she can continue making mortgage payments despite the reality that these payments are not adding a dime to her equity.

Neither of these options is particularly attractive for Jane. Worse, both are terrible for the rest of us. The decline in house value leads Jane to pull back on personal spending, and this pullback will necessarily be greater if she continues to pay her mortgage. On the other hand, if she allows the bank to foreclose, the market value of other houses is further depressed, accelerating the vicious cycle of lost wealth.

How could a shared-responsibility mortgage help? If house prices remained the same or rose, the interest payment on Jane's SRM would remain the same. For example, if the 30-year mortgage rate were 5 percent, Jane would be required to make the same mortgage payment of $5,204 to her lender every year under the SRM, just as under the typical fixed-rate mortgage. Also like a fixed-rate mortgage, a portion of Jane's payment would go toward interest and the remainder toward principal. And the pace of amortization would be unchanged.

The key difference between the SRM and a conventional mortgage is that the SRM provides downside protection to Jane in case the value of her house falls. This is accomplished by linking Jane's mortgage payments to her local housing price index. Linking to the local index instead of the market value of Jane's own house eliminates any incentive for Jane to neglect her home in order to lower her mortgage payments.

Another benefit of using a local house-price index is its widespread availability. A number of entities – firms including Zillow and CoreLogic, along with the Federal Housing Finance Agency – produce such indexes, many of them at the zip-code level. Further credibility could be added by adopting a commonly accepted framework for constructing them; a government or industry watchdog could be responsible for ensuring their authenticity.

Making payments contingent on public indexes is nothing new. For example, many countries have adopted payments that are linked to some index of inflation. The U.S. government itself issues inflation-indexed bonds.

A primary economic benefit of SRMs would have come from avoiding foreclosures. The downside protection embedded in SRMs implies that the loan-to-value ratio would never have gone higher than what it was at origination.

The downside-protection provision works by proportionately reducing Jane's mortgage payment if the housing value index falls below the level when she purchased her property. For example, if her local index fell by 30 percent by the end of her first year of ownership, her mortgage payment in her second year would decline 30 percent, to $3,643. But her 30-year amortization schedule would remain the same. Thus if Jane's house-price index remained unchanged for the remaining 29 years of her mortgage, she would receive a 30 percent forgiveness in principal by the end.

However, on average, house prices are expected to rise in the long run. It is therefore likely that after falling to 70, Jane's local index would rise again and at some point surpass the original mark of 100. As the index gradually recovered, her mortgage payments would rise in tandem. Once the index crossed 100, her annual mortgage payment would once again revert to the full contractual payment of $5,204.

Interest rates tend to fall during recessions. As a result, the adjustable-rate mortgages issued today do offer some protection by automatically lowering the interest rate when the economy sputters. But the downside protection of SRMs is much more significant. Not only does Jane enjoy a lower interest payment, she benefits from a decline in the principal balance of the mortgage, which always leaves her with equity in the home.

Of course, this downside protection comes at the expense of lenders. So, if no supplement to their compensation were included in good times, lenders would need to charge a higher upfront interest rate to offset the downside risk. The cost of providing downside protection depends on expected house-price growth and house-price volatility. If house prices typically grow at a brisk pace, the cost of downside protection would be lower. On the other hand, if house prices are volatile, the cost of the protection would be higher.

Using a standard financial formula, one can calculate the cost of bearing risk for a given rate of expected house-price growth and volatility. House prices in the United States have historically grown at an annual rate of 3.7 percent, with a standard deviation of 8.3 percent. These numbers imply that lenders would need to charge about 1.4 percent of the initial mortgage amount to cover the cost. However, we could also fully compensate the lending institution by giving it a small share of the profit if Jane sold or refinanced her house.

The lender would not have to worry about when or if Jane sold the house. As long as the lender maintained a diverse portfolio of mortgages, it could expect a predictable stream of capital gain payments. And here, too, we can use a financial formula to calculate the expected benefit to the lender. Four to five percent of the existing housing stock is sold every year. Combined with data on average house-price growth, this implies that a 5 percent capital-gain share would more than compensate for the downside protection provided to Jane. The cost of SRM downside protection would be even lower if one took into account the expected reduction in house-price volatility as a result of the general use of risk-sharing mortgages.

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QUANTIFYING THE BENEFITS OF SRMS

In what follows, we ask the following question: how bad would the Great Recession have been had all homeowners possessed SRMs instead of standard mortgages?

The immediate consequence of SRMs in the face of house-price declines is that the wealth of low-to-middle net-worth households would have been partly protected by guaranteeing everyone at least the same percentage of home equity as they had had when they initially purchased their homes. For example, if a house with an $80,000 mortgage dropped in value from $100,000 to $70,000, the mortgage interest payment would also drop by 30 percent, which means the mortgage value would drop by 30 percent (if the market expected house prices to remain this low). As a result, the new mortgage value would be $56,000. The homeowner would retain $14,000 of equity in a $70,000 home, which is (still) 20 percent. Notice that the homeowner would still bear some loss; her equity would decline from $20,000 to $14,000. But the loss would be far smaller than it would have been with a standard debt contract, where the full $20,000 in equity represented by the down payment would have vaporized. As a result, the U.S. would have been partly protected from the large increase in wealth inequality that it witnessed between 2006 and 2009.

But the advantages of SRMs go much further. A primary economic benefit of SRMs would have come from avoiding foreclosures. The downside protection embedded in SRMs implies that the loan-to-value ratio would never have gone higher than what it was at origination. For example, if a borrower bought a home with a 20 percent down payment, he would retain at least a 20 percent equity share regardless of future house-price movements.

If all mortgages in the economy had been structured as SRMs, few would ever have turned "upside down." Thus, even those who could not afford to make the monthly payments would not have allowed their houses to go into foreclosure. Since they retained equity in their houses, they would have been better off selling at market value, paying off the mortgage and pocketing the balance. Interestingly, this feature of SRMs would have also reduced the magnitude of crisis because reducing foreclosures would have trimmed the fall in house prices between 2006 and 2009.

In research with Francesco Trebbi of the University of British Columbia, we quantified the effect of foreclosures on house prices. Our analysis showed average house prices fell by 1.9 percentage points for every 1 percent of homeowners who went into foreclosure between 2007 and 2009. Since SRMs would have virtually eliminated the 5.1 percent rate of foreclosure, it would have reduced the fall in house prices by 9.7 percentage points over the period. Actual house prices fell by 21 percent in these years. So by preventing foreclosures, SRMs might have saved almost the entire amount lost in housing wealth – about $2.5 trillion.

In turn, buffering the decline in housing wealth would have had two positive indirect effects on the economy: higher household spending and fewer job losses. Households cut back an estimated six cents of spending in from 2006 through 2009 for every dollar of housing wealth lost. Thus, preventing a $2.5 trillion decline in housing wealth would have translated into $150 billion less decline in household spending.

There would have been another, subtler impact of SRMs on overall spending. Since households with low wealth and high debt leverage have a higher marginal propensity to consume, SRMs would have helped cushion the blow of a decline in housing wealth by passing some of their losses on to lenders. We estimate this wealth transfer would have totaled $451 billion. [*See the detailed calculation in the book. – the editors.*]

Proponents of the view that the disruption in banking was primarily responsible for the recession might respond that losses of this magnitude for the financial sector would have done extreme damage to the economy. However, the idea that financial firms should never take losses is indefensible: they are in the business of taking risk. Also, in a world with SRMs, it is likely that investors who held them would not be so levered themselves. We seek to encourage an entire financial system that is more equity-dependent, and therefore better able to absorb losses.

Back to the calculation of the impact on spending of shifting housing losses from debtors to creditors. Using an estimate of a gain of 12 cents in spending per dollar of wealth transferred, we arrive at a spending gain of $54 billion for the aforementioned $451 billion transfer.

Overall, then, a world with SRM mortgages would have seen an increase in aggregate spending of $204 billion, substantial stimulus even in the context of the gigantic U.S. economy. To put things in perspective, the federal stimulus program of 2009 added $550 billion to government spending in the short run. The SRM regime thus would have provided an automatic stimulus equal to almost half the government stimulus program – and without any increase in government debt.

PREVENTING JOB LOSSES

By shoring up aggregate demand in the worst part of the recession, SRMs would have protected jobs as well. The decline in spending between 2006 and 2009 compared to the long-run trend for the United States was $870 billion, directly resulting in the loss of an estimated 4 million jobs. If SRMs had restored $204 billion of that sum, it would have translated to almost a million fewer jobs lost in those years.

However, the calculation above is incomplete. Each job saved further contributes toward overall spending, thereby creating a virtuous cycle – a multiplier effect – that augments the original spending increase. Some of the most careful work on the magnitude of this

EPA/MICHAEL REYNOLDS

spending multiplier comes from Emi Nakamura and Jon Steinsson of Columbia University, who estimate the multiplier to be between 3.5 and 4.5 during periods of high unemployment, such as 2007-2009.

That multiplier was estimated for an increase in government spending that would eventually be financed by an increase in future taxes, which could be expected to partially offset the stimulus since some taxpayers would recognize the prudence of saving more to pay off future liabilities. However, the spending boost under the SRM regime would not have been accompanied by expectations

The UK's equity loan is not as desirable as an SRM because of the retention of the conventional first mortgage and the more limited risk sharing in the event of house-price declines.

of higher taxes. As such, the spending multiplier due to SRMs could be larger.

Regardless of the exact size of the multiplier, though, SRMs would have substantially mitigated the severity of the recession. If we assume a spending multiplier of just two, the net spending decline would have been only \$460 billion instead of \$870 billion, and two million jobs would have been saved. If we assume a spending multiplier of 4, the recession would have been almost completely avoided.

ADDITIONAL BENEFITS

The potential benefits of SRMs extend beyond the aforementioned gains – in particular, SRMs would also help prevent bubbles. The downside protection in SRMs would give lenders more cause to worry about future movements in house prices. Hence lenders would have to be mindful of possible froth in local housing markets, especially for newly originated mortgages. If lenders feared that the market might be in a bubble, they would

REUTERS/DARREN STAPLES

raise interest rates for new mortgages in order to cover the cost of the increased likelihood of loss due to a drop in house values.

Another advantage is that homeowners would have to think carefully before doing "cash-out" refinancing. If they refinanced in a booming housing market to realize cash from their home equity, they would need to pay 5 percent of their net gain to the incumbent mortgage holder. This would be a useful discipline on borrowers, especially in light of evidence that many homeowners excessively binged on debt as cash-out refinancing became easier.

WHY DON'T WE SEE SRMS?

The government provides large tax subsidies to debt financing – in particular, interest payments on debt are tax deductible – encouraging overreliance on debt contracts. The government thus pushes the financial system toward debt financing, even though debt can have horrible consequences for the economy.

The mortgage market in particular is dominated by government and distorted by tax policy. The most dominant players in the mortgage market are the two big government-sponsored lending agencies, Freddie Mac and Fannie Mae. They decide which mortgage contract to encourage, and the rest of the market follows. That explains why 30-year, fixed-rate mortgages are the standard here, but rare elsewhere.

The importance of government in determining the financial contracts that households use is evident in the United Kingdom. In 2013 the UK government launched the Help to Buy program, which offered what the British economist David Miles calls an "equity loan." If a household provides a 5 percent down payment and obtains a 75 percent first mortgage, the government will provide a 20 percent loan, where the value of the loan is fixed at 20 percent of the home's market value. As a result, if the home falls in value, so does the principal balance on the government loan.

In our view, the UK's equity loan is not as desirable as an SRM because of the retention of the conventional first mortgage and the more limited risk-sharing in the event of house-price declines. A homeowner in the Help to Buy program can still go underwater if his house price falls significantly, and the combination of the first mortgage with the equity loan likely tends to inflate house prices. But, as Miles has shown, the Great Recession in the United Kingdom would have been far less severe had they been in place. The program has proved immensely popular, by the way, which demonstrates how government choices dictate what financial contracts prevail in the marketplace.

Tax policy also limits innovation in the mortgage industry. Because of its risk-sharing qualities, the SRM would likely not qualify as a "debt instrument" and would therefore not receive the same preferential tax treatment that serves as a subsidy. In fact, the IRS only gives the deduction if the party obtaining the financing – a homeowner or shareholders of a corporation – is subordinate to the rights of general creditors. It's thus official: to get the tax advantage, a homeowner must bear the first losses when house prices fall.

We can't really know whether something like shared-responsibility mortgages would emerge organically if the government didn't so strongly support standard mortgages. But the bias of current policy is important. It certainly means we cannot claim that the absence of SRMs in the marketplace is evidence that borrowers and lenders don't want them.

BUT DEBT IS SO CHEAP...

The financial system relies so heavily on debt because it allows those who want financing to raise funds at lower net cost. Thus some argue that moving away from a debt-based financial system would hurt the economy because it would raise the cost of capital.

Debt is cheap because the government massively subsidizes its use. We've discussed the interest-expense tax deduction, but the subsidies are ubiquitous. The entire financial system is based on explicit or implicit government guarantees of the debt of financial intermediaries. Deposit insurance encourages banks to have substantial short-term debt (deposits) in their capital structure. Implicit subsidies to debt financing encourage financial institutions – especially the large ones – to finance themselves almost exclusively with debt. Debt may look cheap to borrowers, but only because a portion of the cost is borne by third parties (taxpayers). And we shouldn't be surprised that financial intermediaries, which have incentives to use so much debt financing, would lend to households using the same inflexible debt contracts.

Further, as we have argued throughout the book, debt financing can generate other sorts of negative externalities. These include the fire sale of assets below market prices (like foreclosures) and massive aggregate demand shocks (a lot of people cutting back spending) that can throw the economy into recession.

In our view, the massive subsidies to debt financing explain why our financial system is so addicted to it. But some economists still argue that debt is an optimal contract for raising capital for other reasons, and that this explains why debt is so cheap. They say, for example, that it solves a costly "moral hazard" problem. For example, a student loan that demands repayment regardless of the graduating student's future income encourages the student to work diligently toward the highest-paying job possible. In contrast, if the student-loan payment depended on the student's own income, the student would have a weaker incentive to find a high-paying job. Why work hard when the bank gets some of my income, and there are no penalties for not working?

The equity-like contracts we propose here would be contingent on a measure of risk that the individual's own behavior could not influence.

The argument doesn't hold water, though, when the contingency is beyond the borrower's control. The equity-like contracts we propose here, such as SRMs, would be contingent on a measure of risk that the individual's own behavior could not influence. In the case of the SRM, the contract would provide downside protection linked to a local house-price index, not to the market value of the owner's own house. For student loans, the contract would require a lower interest payment if the job market deteriorated, not if the income of the individual fell.

Another common explanation for why debt is cheap is that investors demand super-safe assets. In other words, investors are willing to pay a premium for assets that never change in value. Such assets can only be created if the borrower bears all the risk. If equity-like contracts became dominant, investors who desired super-safe assets would demand a very large premium to hold them.

But why would investors be unwilling to take risks in order to gain higher expected returns? Investors as a group are relatively wealthy, and therefore constitute the sector that should be most willing to bear risk as long as they are properly compensated.

We admit there is substantial evidence that investors show an extreme desire to hold what appear to be super-safe assets. But this is likely driven by the same government subsidies to debt financing we have already mentioned. For example, when the financial crisis peaked in September 2008, the U.S. Treasury stepped in to guarantee money-market funds. Now, all investors know that money-market funds enjoy an implicit guarantee from the government. Their "desire" to put cash into money-market funds is not some primitive preference. They are simply responding rationally to an implicit government subsidy.

In the case of the SRM, the contract would provide downside protection linked to a local house-price index, not to the market value of the owner's own house.

If investors really do exhibit innate preferences for super-safe assets, the government should directly cater to the demand rather than guaranteeing private-sector debt. As we've seen, relying on the private sector for super-safe assets has toxic consequences. Research by Annette Vissing-Jorgenson (University of California-Berkeley) and Arvind Krishnamurthy (Stanford) highlights how financial crises are preceded by the banking sector trying to produce super-safe assets when short-term government debt is in short supply. The banking sector's attempt at supplying riskless assets inevitably fails, leading to a financial crisis.

SHARING RISK MORE BROADLY

The risk-sharing principle underlying SRMs applies in many other contexts. For example, during the Great Recession, countries in Europe with particularly high debt burdens, such as Ireland and Spain, suffered a much worse recession than the countries that had been lending to them, notably Germany. Why? Partly because of inflexible debt contracts, which forced losses on debtor countries while creditor countries remained protected. The levered-losses framework applies to the international system just as it does within the United States.

ISTOCK

The debt that a national government issues is called sovereign debt, and it has the unfortunate catch that the amount owed does not change unless the country is prepared to default on its obligations. Even if the economy plummets and unemployment rises above 25 percent, as it has in Spain, the same interest must be paid on sovereign debt.

A country with debt written in its own currency can reduce the real value of the interest payments by inflating, but countries that had adopted the euro did not have that option. One proposal is for countries to leave the euro and revert to their own currencies. However, the cost of leaving would be bound to be high, as the enforceability of existing contracts denominated in euros would be in doubt.

In a world of more flexible sovereign financing, such a dramatic course of action would be unnecessary.

Mark Kamstra of York University and Robert Shiller of Yale have proposed sovereign bonds where the coupon payment – the regular payment that countries make to investors – would be linked to the nominal GDP of the country. Such a bond would be more equity-like because the investor would experience profits that varied with the fortunes of the country's economy, much like an equity holder receives higher or lower dividends depending on earnings of a corporation. In the case of, say, Spain, such financing would act as an automatic stabilizer: payments on the bonds would immediately fall when the Spanish economy collapsed, providing some relief to Spaniards.

Kenneth Rogoff of Harvard, one of the world's leading experts on financial crises, blames sovereign financial crises squarely on the inflexibility of debt contracts. As he notes, "If [advanced economy] governments stood back and asked themselves how to channel a much larger share of the imbalances into equity-like instruments, the global financial system that emerged might be a lot more robust than the crisis-prone system we have now."

The proverbial devil here would be in the details. Should the payments be linked to GDP growth or to the level of GDP? How could we ensure that the borrowing country didn't manipulate the GDP numbers to reduce their obligations? But these complications should not cloud the overarching goal: to make the international financial system more efficient at sharing macroeconomic risk.

The banking system also needs more risk sharing, something Anat Admati of Stanford and Martin Hellwig from the University of Bonn have articulated. They call for regulators to require more equity financing on the part of financial institutions, which would help insulate the financial system from the sorts of shocks we have seen in the recent past. If banks were funded with more equity, they would not be forced to default on debt when their assets fell. More equity would help prevent banking panics and make it less necessary for central bankers to intervene.

A FINANCIAL SYSTEM THAT WORKS FOR US

Many of our proposals may sound radical – but only because the financial system is so far from where it should be. Households ought to be able to use the system to share the risks associated with purchasing a home or an education. Investors, for their part, should be encouraged to bear some risk to earn a legitimate return not dependent on subsidies. The source of the dysfunction is the terms of the conventional debt contract, and the solution is straightforward: the financial system needs to adopt more equity-like contracts that create no moral hazard on either side.

We have no illusion about the challenges to moving toward this goal. As it currently stands, the financial system benefits very few people, and those few have a vested interest in staving off any reform that could move us away from debt financing. However, we must try. The alternative is to continue down the road of unsustainable debt binges and painful crashes.

SUCCESSFUL AGING 2.0

What do Omaha, Boston, Austin and Toledo have in common? All rate top-10 spots in the Milken Institute's latest ranking of the "Best Cities for Successful Aging." The index ranks the performance of 352 metropolitan areas in providing the infrastructure, amenities and opportunities for engagement with life for the country's fastest-growing age segment.

First launched in 2012, BCSA garners serious attention because, unlike most of the "places rated" rankings that are out there, it is backed by serious data. Strikingly, its top cities are not the traditional sunshine and shuffleboard capitals – a welcome reality for older Americans who would rather age in place than move far from their families, friends and communities.

This year, the Institute asked mayors across America to pledge to make their cities work better for older adults – and more than 135 cities signed up. The media buzz was strong, too, with coverage in *The New York Times*, *CNN Money*, *Forbes*, *Yahoo* and *Time*. The top city – Madison, Wisconsin – even rated mention on *Saturday Night Live*. Check out successfulaging.milkeninstitute.org for the full report.

CONVENING FOR CURES

Some 1,000 leaders in science and medicine gathered in New York for FasterCures's annual Partnering for Cures meeting. After six years, "P4C" has become the venue to share knowledge, best practices and patient-driven solutions that are streamlining the path to cures. One of the panel moderators, Director of the National Institutes of Health Francis Collins, said it best: "When you come to FasterCures, you count on being surprised – by great science, by people you didn't know before that you have a chance to interact with. It's always a rush of energy and excitement." For more, go to partneringforcures.org.

TOPS IN TECH

Massachusetts rocks – as do Maryland, California, Colorado and Utah. They are the top-scoring five states in the Institute's State Tech and Science Index, released in November and available at statetechandscience.org. The index tracks each state's tech and science capabilities, as well as their success in converting these assets into high-paying jobs. Conducted biannually for more than a decade, the index has placed the Bay State first every time. "With its critical mass of universities, research institutions and cutting-edge firms, Massachusetts is the indomitable state," explains Institute economist Kevin Klowden, one of the report's authors.

With the growing recognition that tech and science pave the way to regional economic success, competition has increased significantly. That makes it tough to break into the top: The 10 at the head of the list in 2014 are the same as those in 2010 and 2012, with only a few shuffles in rank. "States that are traditionally strong on technology are building on that strength," says Klowden.

Stranger Than Fiction

It's hardly news that wireless communications is making a big difference in poor countries. But the magnitude of the impact is only just beginning to sink in, as technology enabling the extremely cheap exchange of information is transforming everything from agriculture to finance to education. That, in part, explains why the poorest of poor countries apparently put a higher priority on cell phones than on clean water or transportation infrastructure. And why cell phone penetration in the Third World is hardly lower than in the First. Indeed, arguably the greatest economic liability of repressive regimes in Cuba, North Korea and (until quite recently) Myanmar may be their resistance to a technology rightly feared as a challenge to centralized political power.

Skeptical? Check out this fairly random selection…

COUNTRY	MOBILE PHONE SUBSCRIPTIONS/ 100 PEOPLE (2013)	LIFE EXPECTANCY AT BIRTH (YEARS) (2013)	PER CAPITA INCOME (US$ PPP) (2013)
North Korea	7	69.8	$1,800
Myanmar	13	65.9	1,700
Cuba	18	78.2	18,500
Afghanistan	70	50.5	1,100
Guinea-Bissau	74	49.9	1,200
China	89	75.2	9,800
Bolivia	98	68.6	5,500
Tajikistan	92	67.1	2,300
Zimbabwe	96	55.7	600
United States	96	79.6	52,800
Nicaragua	112	72.7	4,500
Japan	115	84.5	37,100
Germany	119	80.4	39,500
Mali	129	55.0	1,100
Vietnam	131	72.9	4,000
Switzerland	134	82.4	54,800
South Africa	147	49.6	11,500

SOURCE: World Bank

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