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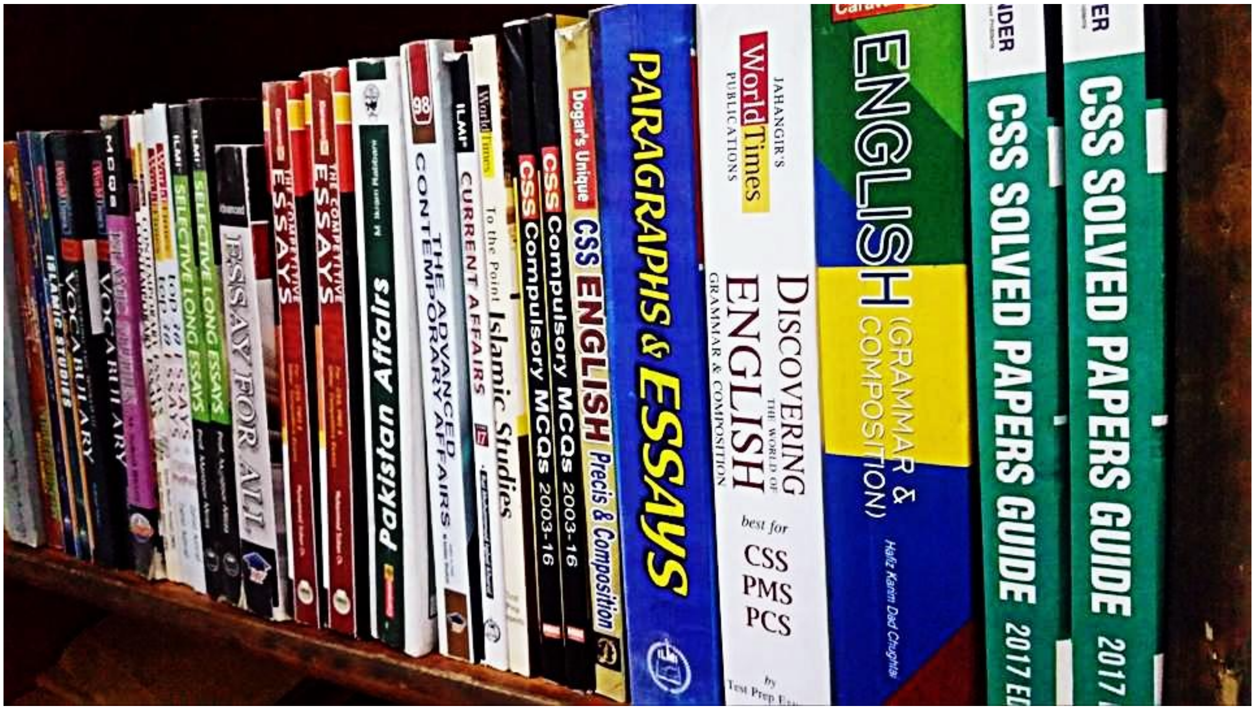
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The Path to a Sustainable World

A 2020 Davos Reader

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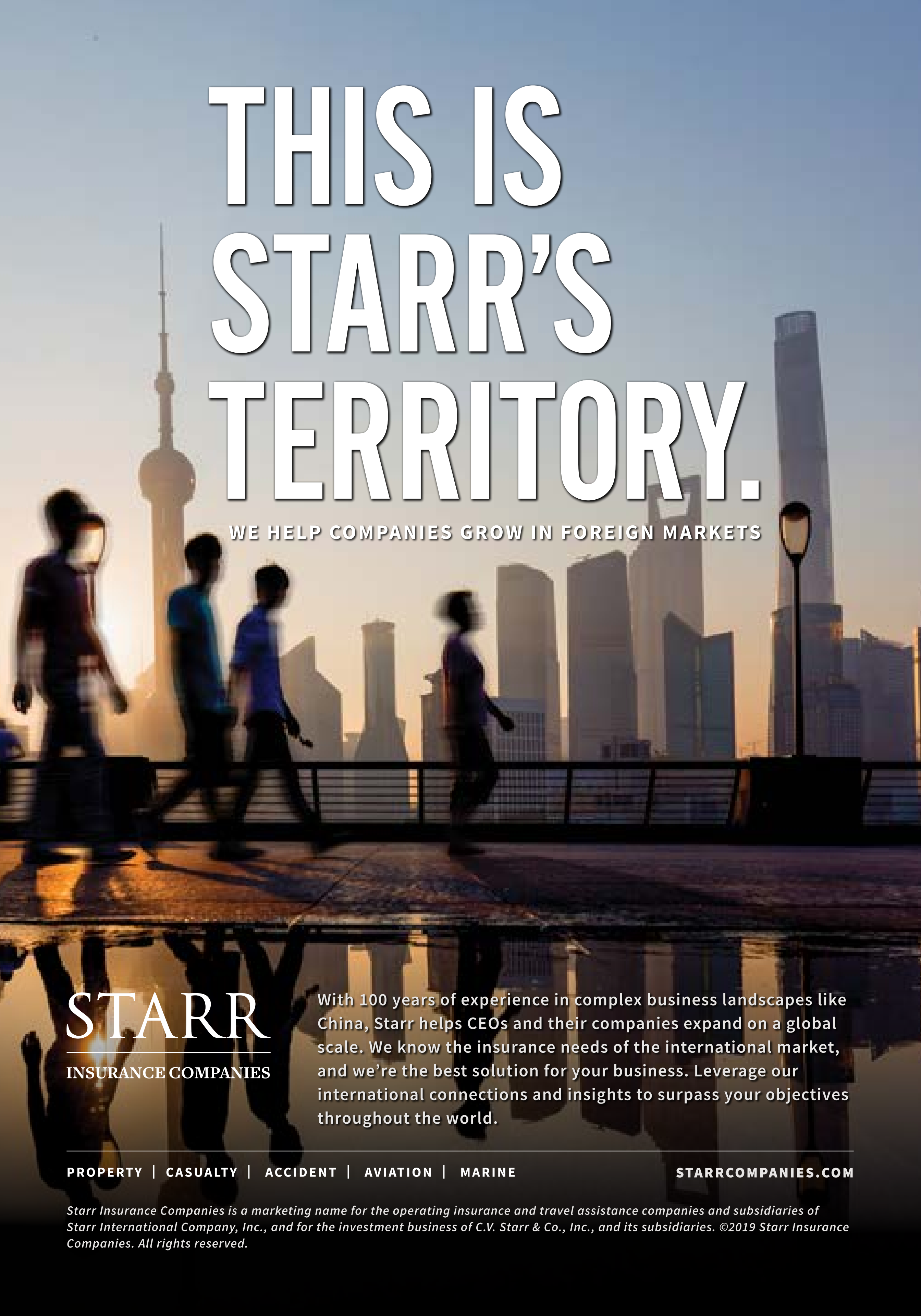
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This year's World Economic Forum Annual Meeting takes up the theme of stakeholder capitalism—a system based on a business model that serves "clients, shareholders, workers, and employees, as well as societies," as Klaus Schwab writes in the introduction of this special *Foreign Affairs* collection. Companies must reform capitalism from within, Schwab warns, before others force change from the outside. In the essays that follow, all drawn from the pages and pixels of *Foreign Affairs*, some of the world's leading scholars and practitioners explore the central threats—political, economic, technological, environmental—to a cohesive world today and chart possible routes to a more sustainable future.

—The Editors

Introduction

Capitalism Must Reform to Survive

Klaus Schwab

JANUARY 2020

Companies today face an existential choice. Either they wholeheartedly embrace "stakeholder capitalism" and subscribe to the responsibilities that come with it, by actively taking steps to meet social and environmental goals. Or they stick to an outdated "shareholder capitalism" that prioritizes short-term profits over everything else—and wait for employees, clients, and voters to force change on them from the outside.

This assessment may seem harsh coming from someone who has always believed in the pivotal role companies play in the global economy. But there is no alternative. Our ecological footprint has expanded far beyond what the earth can sustain. Our social systems are cracking. Our economies no longer drive inclusive growth.

Today's younger generations simply do not accept that companies should pursue profits at the expense of broader environmental and social well-being. We know that a free-market economy is essential for producing long-term development and social progress. We should not want to replace that system. But in its current form, capitalism has reached its limits. Unless it reforms from within, it will not survive.

FROM SHAREHOLDERS TO STAKEHOLDERS

Last year, the Business Roundtable, an organization representing many of the largest American companies, announced that it wanted to

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move away from shareholder primacy and toward a commitment to all stakeholders. It redefined the purpose of a corporation to promote "an economy that serves all Americans"—not just those who own shares.

The CEOs signing the Business Roundtable statement were a veritable *Who's Who* of American capitalism. As chair of the Business Roundtable, JPMorgan Chase CEO Jamie Dimon was the first to endorse it. Among the 181 signatories were also Alex Gorsky of Johnson & Johnson, Ginni Rometty of IBM, Mortimer J. Buckley of Vanguard, and Tricia Griffith of Progressive.

The announcement was met with mixed reactions. Some saw it merely as a maneuver to preempt pressure from an ascendant left. Others dismissed it as disingenuous, a mostly symbolic move without concrete actions to back it up. How can a company claim to have implemented a major change, asked skeptics, if its quarterly reports still focus on maximizing the financial bottom line?

But such skepticism misses how significant the shift is—and the opportunity to turn it into real change. Since 1997, each previous set of principles endorsed by the Business Roundtable had put shareholder primacy first. For the group to drop that principle was revolutionary. But it is also true that unless these words are translated into collective actions, the revolution will be short-lived.

WHAT IS THE CORPORATION?

So what can be done to ensure that the move to stakeholder capitalism is real and lasting? To answer that question, it is worthwhile looking back to the postwar global economic system and the role played within it by companies, governments, civil society, and international organizations. Some may think Western capitalism has always put shareholders first. That is not so.

The World Economic Forum was founded five decades ago in Davos to promote the "multistakeholder concept"—a model that had grown out of my knowledge of both the European and the American approaches to capitalism. U.S. companies in the postwar era had perfected business and financial management, optimizing for growth and profits. It made American companies and American management thinkers the envy of the world. But European managers at the time were also getting something right. They had a social reflex, evident in a deep commitment to their workers, clients, and suppliers. As an engineering student, I had worked on the shop floor in several factories. Spending time with my fellow workers confirmed to me that blue-collar workers are just as bright, and add just as much value to a company, as their white-collar peers or the shareholders of the companies they work for.

The ideas of stakeholder capitalism (which I first described in my 1971 book, *Modern Enterprise Management in Mechanical Engineering*) inform the Davos Manifesto signed at the newly created World Economic Forum. The manifesto's opening line declared that "the purpose of professional management is to serve clients, shareholders, workers, and employees, as well as societies, and to harmonize the different interests of the stakeholders."

The Davos Manifesto was rooted in recent postwar experience, but it was also a restoration of a longer historical arc. Companies have always been social units as well as economic units. Indeed, corporations were first created in medieval Europe as an independent vehicle to achieve economic progress but also to create prosperity for society or to build institutions for the public good, such as hospitals and universities—what we now call "shared value."

But this vision of the corporation was not universally embraced. Around the same time, the University of Chicago economist Milton Friedman put forth a very different vision. "There is one and only one social responsibility of business," he wrote, and that is "to use its resources and engage in activities designed to increase its profits." The business of business, in short, was business. The idea of shareholder primacy was born. Before long, it was embraced by the Business Roundtable and other leaders in the field.

INCONVENIENT TRUTHS

For the next few decades, it appeared that shareholder capitalism really was superior to stakeholder capitalism. U.S. companies increased their dominance, and shareholder primacy became the norm in international businesses. No person captured the atmosphere better, perhaps, than Michael Douglas's Gordon Gekko in the film *Wall Street*. "Greed, for lack of a better term," he said, "is good." His words were fiction, but many in the business and financial world agreed.

But the high growth of the 1980s, the 1990s, and the early years of this century masked some inconvenient truths. Wages in the United States started to stagnate from the late 1970s onward, and union power significantly declined. The natural environment deteriorated as the economy improved. And governments found it increasingly difficult to gather taxes from multinational corporations. All those problems have combined in the current crisis—and the only viable response is a turn back to the stakeholder capitalism that the shareholder model displaced.

In the four decades since 1980, economic inequality of all forms has significantly increased. In the United States, most notably, inflation-adjusted income growth within the bottom 90 percent has been virtually zero, while incomes of the top 0.01 percent have risen more than five-fold. Wealth inequality has grown even more. And the trends are similar, if sometimes less pronounced, virtually everywhere else in the world. In the 1960s, a CEO might earn 20 times what his workers earned. Today, American CEOs earn on average 287 times the median salary.

At the same time, the world's leading companies have grown bigger and bigger, leading to increased market power and a change in their relationship to communities and governments. Whereas companies were once deeply embedded in the communities where they operated, those connections have diminished over time. As they cleverly exploit intellectual property and global transfer pricing, many companies—driven by profit maximization—have become less reliable taxpayers. And as the financial sector has grown in a way that is increasingly decoupled from real economic growth, it has pursued short-term results to the detriment of long-term sustainability.

The overall result has been a deterioration of the bond between business and society. And governments, faced with fresh social and economic challenges, are often unable to make the investments that are needed, deprived as they are of necessary tax incomes.

Finally, and perhaps most important, the environment has continued to suffer as a result of economic activity driven solely by profit maximization. This, too, was a concern as early as the 1970s. At Davos in 1973, the Club of Rome's Aurelio Peccei spoke of the imminent "limits to growth." And the Davos Manifesto noted that management "must assume the role of a trustee of the material universe for future generations" and "use the immaterial and material resources at its disposal in an optimal way."

We now know that if our use of the world's natural resources had remained at early 1970s levels, we probably would not be facing a climate crisis today. According to the Global Footprint Network, 1969 was the last year in which humanity's ecological footprint was small enough to be sustainable. Since then, we've consistently exceeded this limit. Now, in 2020, we use resources at almost twice the sustainable rate.

A LAST CHANCE

As young people from around the world have been reminding us of late, now is the time to rectify our historical error. The only way to save capitalism is to return to—and double down on—the stakeholder model we discovered, and then forgot, decades ago. But with the social, economic, and environmental situation now several times worse than it was, we'll more than ever need to make changes that go beyond mere words. How can we do this?

To start, companies and their shareholders must agree on a long-term vision of their objectives and performance, rather than let quarterly results dictate everything. From there, companies must make more concrete commitments to pay fair prices, salaries, and taxes wherever they operate. And finally, we have to integrate environmental, social, and governance measurements into formal business reporting and auditing systems.

These steps will require major changes. But the alternative will be even more difficult and potentially disruptive. Companies will be forced by new generations of workers, consumers, and voters to change their ways, whether or not they want to. Many companies, rejected by these groups, could slowly wither away. Or governments could take a heavier hand in enforcing new norms, reasserting themselves as the leviathan referee in markets.

If companies want to avoid such scenarios, 2020 will be a pivotal year. At the World Economic Forum, we will continue to advance and advocate for stakeholder capitalism, with the concrete commitments to make it inclusive and sustainable. This may be our last chance to reform capitalism from within. We should take it.

THE WORLD IN 2020

How a World Order Ends

And What Comes in Its Wake

Richard Haass

JANUARY/FEBRUARY 2019

A stable world order is a rare thing. When one does arise, it tends to come after a great convulsion that creates both the conditions and the desire for something new. It requires a stable distribution of power and broad acceptance of the rules that govern the conduct of international relations. It also needs skillful statecraft, since an order is made, not born. And no matter how ripe the starting conditions or strong the initial desire, maintaining it demands creative diplomacy, functioning institutions, and effective action to adjust it when circumstances change and buttress it when challenges come.

Eventually, inevitably, even the best-managed order comes to an end. The balance of power underpinning it becomes imbalanced. The institutions supporting it fail to adapt to new conditions. Some countries fall, and others rise, the result of changing capacities, faltering wills, and growing ambitions. Those responsible for upholding the order make mistakes both in what they choose to do and in what they choose not to do.

But if the end of every order is inevitable, the timing and the manner of its ending are not. Nor is what comes in its wake. Orders tend to expire in a prolonged deterioration rather than a sudden collapse. And just as maintaining the order depends on effective statecraft and effective action, good policy and proactive diplomacy can help determine how that deterioration unfolds and what it brings. Yet for that to happen, something else must come first: recognition that the old or-

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der is never coming back and that efforts to resurrect it will be in vain. As with any ending, acceptance must come before one can move on.

In the search for parallels to today's world, scholars and practitioners have looked as far afield as ancient Greece, where the rise of a new power resulted in war between Athens and Sparta, and the period after World War I, when an isolationist United States and much of Europe sat on their hands as Germany and Japan ignored agreements and invaded their neighbors. But the more illuminating parallel to the present is the Concert of Europe in the nineteenth century, the most important and successful effort to build and sustain world order until our own time. From 1815 until the outbreak of World War I a century later, the order established at the Congress of Vienna defined many international relationships and set (even if it often failed to enforce) basic rules for international coduct. It provides a model of how to collectively manage security in a multipolar world.

That order's demise and what followed offer instructive lessons for today—and an urgent warning. Just because an order is in irreversible decline does not mean that chaos or calamity is inevitable. But if the deterioration is managed poorly, catastrophe could well follow.

OUT OF THE ASHES

The global order of the second half of the twentieth century and the first part of the twenty-first grew out of the wreckage of two world wars. The nineteenth-century order followed an earlier international convulsion: the Napoleonic Wars, which, after the French Revolution and the rise of Napoleon Bonaparte, ravaged Europe for more than a decade. After defeating Napoleon and his armies, the victorious allies—Austria, Prussia, Russia, and the United Kingdom, the great powers of their day—came together in Vienna in 1814 and 1815. At the Congress of Vienna, they set out to ensure that France's military never again threatened their states and that revolutionary movements never again threatened their monarchies. The victorious powers also made the wise choice to integrate a defeated France, a course very different from the one taken with Germany following World War I and somewhat different from the one chosen with Russia in the wake of the Cold War.

The congress yielded a system known as the Concert of Europe. Although centered in Europe, it constituted the international order of its day given the dominant position of Europe and Europeans in the world. There was a set of shared understandings about relations between states, above all an agreement to rule out invasion of another country or involvement in the internal affairs of another without its permission. A rough military balance dissuaded any state tempted to overthrow the order from trying in the first place (and prevented any state that did try from succeeding). Foreign ministers met (at what came to be called "congresses") whenever a major issue arose. The concert was conservative in every sense of the word. The Treaty of Vienna had made numerous territorial adjustments and then locked Europe's borders into place, allowing changes only if all signatories agreed. It also did what it could to back monarchies and encourage others to come to their aid (as France did in Spain in 1823) when they were threatened by popular revolt.

The concert worked not because there was complete agreement among the great powers on every point but because each state had its own reasons for supporting the overall system. Austria was most concerned with resisting the forces of liberalism, which threatened the ruling monarchy. The United Kingdom was focused on staving off a renewed challenge from France while also guarding against a potential threat from Russia (which meant not weakening France so much that it couldn't help offset the threat from Russia). But there was enough overlap in interests and consensus on first-order questions that the concert prevented war between the major powers of the day.

The concert technically lasted a century, until the eve of World War I. But it had ceased to play a meaningful role long before then. The revolutionary waves that swept Europe in 1830 and 1848 revealed the limits of what members would do to maintain the existing order within states in the face of public pressure. Then, more consequentially, came the Crimean War. Ostensibly fought over the fate of Christians living within the Ottoman Empire, in actuality it was much more about who would control territory as that empire decayed.

The conflict pitted France, the United Kingdom, and the Ottoman Empire against Russia. It lasted two and a half years, from 1853 to 1856. It was a costly war that highlighted the limits of the concert's ability to prevent great-power war; the great-power comity that had made the concert possible no longer existed. Subsequent wars between Austria and Prussia and Prussia and France demonstrated that major-power conflict had returned to the heart of Europe after a long hiatus. Matters seemed to stabilize for a time after that, but this was an illusion. Beneath the surface, German power was rising and empires were rotting. The combination set the stage for World War I and the end of what had been the concert.

WHAT AILS THE ORDER?

What lessons can be drawn from this history? As much as anything else, the rise and fall of major powers determines the viability of the prevailing order, since changes in economic strength, political cohesion, and military power shape what states can and are willing to do beyond their borders. Over the second half of the nineteenth century and the start of the twentieth, a powerful, unified Germany and a modern Japan rose, the Ottoman Empire and tsarist Russia declined, and France and the United Kingdom grew stronger but not strong enough. Those changes upended the balance of power that had been the concert's foundation; Germany, in particular, came to view the status quo as inconsistent with its interests.

Changes in the technological and political context also affected that underlying balance. Under the concert, popular demands for democratic participation and surges of nationalism threatened the status quo within countries, while new forms of transportation, communication, and armaments transformed politics, economics, and warfare. The conditions that helped give rise to the concert were gradually undone.

Yet it would be overly deterministic to attribute history to underlying conditions alone. Statecraft still matters. That the concert came into existence and lasted as long as it did underscores that people make a difference. The diplomats who crafted it—Metternich of Austria, Talleyrand of France, Castlereagh of the United Kingdom—were exceptional. The fact that the concert preserved peace despite the gap between two relatively liberal countries, France and the United Kingdom, and their more conservative partners shows that countries with different political systems and preferences can work together to maintain international order. Little that turns out to be good or bad in history is inevitable. The Crimean War might well have been avoided if more capable and careful leaders had been on the scene. It is far from clear that Russian actions warranted a military response by France and the United Kingdom of the nature and on the scale that took place. That the countries did what they did also underscores the power and dangers of nationalism. World War I broke out in no small part because the successors to German Chancellor Otto von Bismarck were unable to discipline the power of the modern German state he did so much to bring about.

Two other lessons stand out. First, it is not just core issues that can cause an order to deteriorate. The concert's great-power comity ended not because of disagreements over the social and political order within Europe but because of competition on the periphery. And second, because orders tend to end with a whimper rather than a bang, the process of deterioration is often not evident to decision-makers until it has advanced considerably. By the outbreak of World War I, when it became obvious that the Concert of Europe no longer held, it was far too late to save it—or even to manage its dissolution.

A TALE OF TWO ORDERS

The global order built in the aftermath of World War II consisted of two parallel orders for most of its history. One grew out of the Cold War between the United States and the Soviet Union. At its core was a rough balance of military strength in Europe and Asia, backed up by nuclear deterrence. The two sides showed a degree of restraint in their rivalry. "Rollback"—Cold War parlance for what today is called "regime change"—was rejected as both infeasible and reckless. Both sides followed informal rules of the road that included a healthy respect for each other's backyards and allies. Ultimately, they reached an understanding over the political order within Europe, the principal arena of Cold War competition, and in 1975 codified that mutual understanding in the Helsinki Accords. Even in a divided world, the two power centers agreed on how the competition would be waged; theirs was an order based on means rather than ends. That there were only two power centers made reaching such an agreement easier.

The other post–World War II order was the liberal order that operated alongside the Cold War order. Democracies were the main participants in this effort, which used aid and trade to strengthen ties and fostered respect for the rule of law both within and between countries. The economic dimension of this order was designed to bring about a world (or, more accurately, the non-communist half of it) defined by trade, development, and well-functioning monetary operations. Free trade would be an engine of economic growth and bind countries together so that war would be deemed too costly to wage; the dollar was accepted as the de facto global currency.

The diplomatic dimension of the order gave prominence to the UN. The idea was that a standing global forum could prevent or resolve international disputes. The UN Security Council, with five great power permanent members and additional seats for a rotating membership, would orchestrate international relations. Yet the order depended just as much on the willingness of the noncommunist world (and U.S. allies in particular) to accept American primacy. As it turns out, they were prepared to do this, as the United States was more often than not viewed as a relatively benign hegemon, one admired as much for what it was at home as for what it did abroad.

Both of these orders served the interests of the United States. The core peace was maintained in both Europe and Asia at a price that a growing U.S. economy could easily afford. Increased international trade and opportunities for investment contributed to U.S. economic growth. Over time, more countries joined the ranks of the democracies. Neither order reflected a perfect consensus; rather, each offered enough agreement so that it was not directly challenged. Where U.S. foreign policy got into trouble—such as in Vietnam and Iraq—it was not because of alliance commitments or considerations of order but because of ill-advised decisions to prosecute costly wars of choice.

SIGNS OF DECAY

Today, both orders have deteriorated. Although the Cold War itself ended long ago, the order it created came apart in a more piecemeal fashion—in part because Western efforts to integrate Russia into the liberal world order achieved little. One sign of the Cold War order's deterioration was Saddam Hussein's 1990 invasion of Kuwait, something Moscow likely would have prevented in previous years on the grounds that it was too risky. Although nuclear deterrence still holds, some of the arms control agreements buttressing it have been broken, and others are fraying.

Although Russia has avoided any direct military challenge to NATO, it has nonetheless shown a growing willingness to disrupt the status quo: through its use of force in Georgia in 2008 and Ukraine since 2014, its often indiscriminate military intervention in Syria, and its aggressive use of cyberwarfare to attempt to affect political outcomes in the United States and Europe. All of these represent a rejection of the principal constraints associated with the old order. From a Russian perspective, the same might be said of NATO enlargement, an initiative clearly at odds with Winston Churchill's dictum "In victory, magnanimity." Russia also judged the 2003 Iraq war and the 2011 NATO military intervention in Libya, which was undertaken in the name of humanitarianism but quickly evolved into regime change, as acts of bad faith and illegality inconsistent with notions of world order as it understood them.

The liberal order is exhibiting its own signs of deterioration. Authoritarianism is on the rise not just in the obvious places, such as China and Russia, but also in the Philippines, Turkey, and eastern Europe. Global trade has grown, but recent rounds of trade talks have ended without agreement, and the World Trade Organization (WTO) has proved unable to deal with today's most pressing challenges, including nontariff barriers and the theft of intellectual property. Resentment over the United States' exploitation of the dollar to impose sanctions is growing, as is concern over the country's accumulation of debt.

The UN Security Council is of little relevance to most of the world's conflicts, and international arrangements have failed more broadly to contend with the challenges associated with globalization. The composition of the Security Council bears less and less resemblance to the real distribution of power. The world has put itself on the record as against genocide and has asserted a right to intervene when governments fail to live up to the "responsibility to protect" their citizens, but the talk has not translated into action. The Nuclear Nonproliferation Treaty allows only five states to have nuclear weapons, but there are now nine that do (and many others that could follow suit if they chose to). The EU, by far the most significant regional arrangement, is struggling with Brexit and disputes over migration and sovereignty. And around the world, countries are increasingly resisting U.S. primacy.

POWER SHIFTS

Why is all this happening? It is instructive to look back to the gradual demise of the Concert of Europe. Today's world order has struggled to cope with power shifts: China's rise, the appearance of several medium powers (Iran and North Korea, in particular) that reject important aspects of the order, and the emergence of nonstate actors (from drug cartels to terrorist networks) that can pose a serious threat to order within and between states.

The technological and political context has changed in important ways, too. Globalization has had destabilizing effects, ranging from climate change to the spread of technology into far more hands than ever before, including a range of groups and people intent on disrupting the order. Nationalism and populism have surged—the result of greater inequality within countries, the dislocation associated with the 2008 financial crisis, job losses caused by trade and technology, increased flows of migrants and refugees, and the power of social media to spread hate.

Meanwhile, effective statecraft is conspicuously lacking. Institutions have failed to adapt. No one today would design a UN Security Council that looked like the current one; yet real reform is impossible, since those who would lose influence block any changes. Efforts to build effective frameworks to deal with the challenges of globalization, including climate change and cyberattacks, have come up short. Mistakes within the EU—namely, the decisions to establish a common currency without creating a common fiscal policy or a banking union and to permit nearly unlimited immigration to Germany—have created a powerful backlash against existing governments, open borders, and the EU itself.

The United States, for its part, has committed costly overreach in trying to remake Afghanistan, invading Iraq, and pursuing regime change in Libya. But it has also taken a step back from maintaining global order and in certain cases has been guilty of costly underreach. In most instances, U.S. reluctance to act has come not over core issues but over peripheral ones that leaders wrote off as not worth the costs involved, such as the strife in Syria, where the United States failed to respond meaningfully when Syria first used chemical weapons or to do more to help anti-regime groups. This reluctance has increased others' propensity to disregard U.S. concerns and act independently. The Saudi-led military intervention in Yemen is a case in point. Russian actions in Syria and Ukraine should also be seen in this light; it is interesting that Crimea marked the effective end of the Concert of Europe and signaled a dramatic setback in the current order. Doubts about U.S. reliability have multiplied under the Trump administration, thanks to its withdrawal from numerous international pacts and its conditional approach to once inviolable U.S. alliance commitments in Europe and Asia.

MANAGING THE DETERIORATION

Given these changes, resurrecting the old order will be impossible. It would also be insufficient, thanks to the emergence of new challenges. Once this is acknowledged, the long deterioration of the Concert of Europe should serve as a lesson and a warning.

For the United States to heed that warning would mean strengthening certain aspects of the old order and supplementing them with measures that account for changing power dynamics and new global problems. The United States would have to shore up arms control and nonproliferation agreements; strengthen its alliances in Europe and Asia; bolster weak states that cannot contend with terrorists, cartels, and gangs; and counter authoritarian powers' interference in the democratic process. Yet it should not give up trying to integrate China and Russia into regional and global aspects of the order. Such efforts will necessarily involve a mix of compromise, incentives, and pushback. The judgment that attempts to integrate China and Russia have mostly failed should not be grounds for rejecting future efforts, as the course of the twenty-first century will in no small part reflect how those efforts fare.

The United States also needs to reach out to others to address problems of globalization, especially climate change, trade, and cyber-operations. These will require not resurrecting the old order but building a new one. Efforts to limit, and adapt to, climate change need to be more ambitious. The WTO must be amended to address the sorts of issues raised by China's appropriation of technology, provision of subsidies to domestic firms, and use of nontariff barriers to trade. Rules of the road are needed to regulate cyberspace. Together, this is tantamount to a call for a modern-day concert. Such a call is ambitious but necessary.

The United States must show restraint and recapture a degree of respect in order to regain its reputation as a benign actor. This will require some sharp departures from the way U.S. foreign policy has been practiced in recent years: to start, no longer carelessly invading other countries and no longer weaponizing U.S. economic policy through the overuse of sanctions and tariffs. But more than anything else, the current reflexive opposition to multilateralism needs to be rethought. It is one thing for a world order to unravel slowly; it is quite another for the country that had a large hand in building it to take the lead in dismantling it.

All of this also requires that the United States get its own house in order—reducing government debt, rebuilding infrastructure, improving public education, investing more in the social safety net, adopting a smart immigration system that allows talented foreigners to come and stay, tackling political dysfunction by making it less difficult to vote, and undoing gerrymandering. The United States cannot effectively promote order abroad if it is divided at home, distracted by domestic problems, and lacking in resources.

The major alternatives to a modernized world order supported by the United States appear unlikely, unappealing, or both. A Chinese-led order, for example, would be an illiberal one, characterized by authoritarian domestic political systems and statist economies that place a premium on maintaining domestic stability. There would be a return to spheres of influence, with China attempting to dominate its region, likely resulting in clashes with other regional powers, such as India, Japan, and Vietnam, which would probably build up their conventional or even nuclear forces.

A new democratic, rules-based order fashioned and led by medium powers in Europe and Asia, as well as Canada, however attractive a concept, would simply lack the military capacity and domestic political will to get very far. A more likely alternative is a world with little order—a world of deeper disarray. Protectionism, nationalism, and populism would gain, and democracy would lose. Conflict within and across borders would become more common, and rivalry between great powers would increase. Cooperation on global challenges would be all but precluded. If this picture sounds familiar, that is because it increasingly corresponds to the world of today.

The deterioration of a world order can set in motion trends that spell catastrophe. World War I broke out some 60 years after the Concert of Europe had for all intents and purposes broken down in Crimea. What we are seeing today resembles the mid-nineteenth century in important ways: the post–World War II, post–Cold War order cannot be restored, but the world is not yet on the edge of a systemic crisis. Now is the time to make sure one never materializes, be it from a breakdown in U.S.-Chinese relations, a clash with Russia, a conflagration in the Middle East, or the cumulative effects of climate change. The good news is that it is far from inevitable that the world will eventually arrive at a catastrophe; the bad news is that it is far from certain that it will not.

The Clash of Capitalisms

The Real Fight for the Global Economy's Future

Branko Milanovic

JANUARY/FEBRUARY 2020

Capitalism rules the world. With only the most minor exceptions, the entire globe now organizes economic production the same way: labor is voluntary, capital is mostly in private hands, and production is coordinated in a decentralized way and motivated by profit.

There is no historical precedent for this triumph. In the past, capitalism—whether in Mesopotamia in the sixth century BC, the Roman Empire, Italian city-states in the Middle Ages, or the Low Countries in the early modern era—had to coexist with other ways of organizing production. These alternatives included hunting and gathering, small-scale farming by free peasants, serfdom, and slavery. Even as recently as 100 years ago, when the first form of globalized capitalism appeared with the advent of large-scale industrial production and global trade, many of these other modes of production still existed. Then, following the Russian Revolution in 1917, capitalism shared the world with communism, which reigned in countries that together contained about one-third of the human population. Now, however, capitalism is the sole remaining mode of production.

It's increasingly common to hear commentators in the West describe the current order as "late capitalism," as if the economic system were on the verge of disappearing. Others suggest that capitalism is

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facing a revived threat from socialism. But the ineluctable truth is that capitalism is here to stay and has no competitor. Societies around the world have embraced the competitive and acquisitive spirit hard-wired into capitalism, without which incomes decline, poverty increases, and technological progress slows. Instead, the real battle is within capitalism, between two models that jostle against each other.

Often in human history, the triumph of one system or religion is soon followed by a schism between different variants of the same credo. After Christianity spread across the Mediterranean and the Middle East, it was riven by ferocious ideological disputes, which eventually produced the first big fissure in the religion, between the Eastern and Western churches. So, too, with Islam, which after its dizzying expansion swiftly divided into Shiite and Sunni branches. And communism, capitalism's twentieth-century rival, did not long remain a monolith, splitting into Soviet and Maoist versions. In this respect, capitalism is no different: two models now hold sway, differing in their political, economic, and social aspects.

In the states of western Europe and North America and a number of other countries, such as India, Indonesia, and Japan, a liberal meritocratic form of capitalism dominates: a system that concentrates the vast majority of production in the private sector, ostensibly allows talent to rise, and tries to guarantee opportunity for all through measures such as free schooling and inheritance taxes. Alongside that system stands the state-led, political model of capitalism, which is exemplified by China but also surfaces in other parts of Asia (Myanmar, Singapore, Vietnam), in Europe (Azerbaijan, Russia), and in Africa (Algeria, Ethiopia, Rwanda). This system privileges high economic growth and limits individual political and civic rights.

These two types of capitalism—with the United States and China, respectively, as their leading examples—invariably compete with each other because they are so intertwined. Asia, western Europe, and North America, which together are home to 70 percent of the world's population and 80 percent of its economic output, are in constant contact through trade, investment, the movement of people, the transfer of technology, and the exchange of ideas. Those connections and collisions have bred a competition between the West and parts of Asia that is made more intense by the differences in their respective models of capitalism. And it is this competition—not a contest between capitalism and some alternative economic system—that will shape the future of the global economy.

In 1978, almost 100 percent of China's economic output came from the public sector; that figure has now dropped to less than 20 percent. In modern China, as in the more traditionally capitalist countries of the West, the means of production are mostly in private hands, the state doesn't impose decisions about production and pricing on companies, and most workers are wage laborers. China scores as positively capitalistic on all three counts.

Capitalism now has no rival, but these two models offer significantly different ways of structuring political and economic power in a society. Political capitalism gives greater autonomy to political elites while promising high growth rates to ordinary people. China's economic success undermines the West's claim that there is a necessary link between capitalism and liberal democracy.

Liberal capitalism has many well-known advantages, the most important being democracy and the rule of law. These two features are virtues in themselves, and both can be credited with encouraging faster economic development by promoting innovation and social mobility. Yet this system faces an enormous challenge: the emergence of a self-perpetuating upper class coupled with growing inequality. This now represents the gravest threat to liberal capitalism's long-term viability.

At the same time, China's government and those of other political capitalist states need to constantly generate economic growth to legitimize their rule, a compulsion that might become harder and harder to fulfill. Political capitalist states must also try to limit corruption, which is inherent to the system, and its complement, galloping inequality. The test of their model will be its ability to restrain a growing capitalist class that often chafes against the overweening power of the state bureaucracy.

As other parts of the world (notably African countries) attempt to transform their economies and jump-start growth, the tensions between the two models will come into sharper focus. The rivalry between China and the United States is often presented in simply geopolitical terms, but at its core, it is like the grinding of two tectonic plates whose friction will define how capitalism evolves in this century.

LIBERAL CAPITALISM

The global dominance of capitalism is one of two epochal changes that the world is living through. The other is the rebalancing of economic power between the West and Asia. For the first time since the Industrial Revolution, incomes in Asia are edging closer to those in western

Europe and North America. In 1970, the West produced 56 percent of world economic output and Asia (including Japan) produced only 19 percent. Today, only three generations later, those proportions have shifted to 37 percent and 43 percent—thanks in large part to the staggering economic growth of countries such as China and India.

Capitalism in the West generated the information and communications technologies that enabled a new wave of globalization in the late twentieth century, the period when Asia began to narrow the gap with the "global North." Anchored initially in the wealth of Western economies, globalization led to an overhaul of moribund structures and huge growth in many Asian countries. Global income inequality has dropped significantly from what it was in the 1990s, when the global Gini coefficient (a measure of income distribution, with zero representing perfect equality and one representing perfect inequality) was 0.70; today, it is roughly 0.60. It will drop further as incomes continue to rise in Asia.

Although inequality between countries has lessened, inequality within countries—especially those in the West—has grown. The United States' Gini coefficient has risen from 0.35 in 1979 to about 0.45 today. This increase in inequality within countries is in large part a product of globalization and its effects on the more developed economies in the West: the weakening of trade unions, the flight of manufacturing jobs, and wage stagnation.

Liberal meritocratic capitalism came into being in the last 40 years. It can be best understood in comparison to two other variants: classical capitalism, which was predominant in the nineteenth and early twentieth centuries, and social democratic capitalism, which defined the welfare states in western Europe and North America from World War II to the early 1980s.

Unlike in the classical capitalism of the nineteenth century, when fortunes were to be made from owning, not working, rich individuals in the present system tend to be both capital rich and labor rich—that is, they generate their income both from investments and from work. They also tend to marry and make families with partners of similar educational and financial backgrounds, a phenomenon sociologists call "assortative mating." Whereas the people at the top of the income distribution under classical capitalism were often financiers, today many of those at the top are highly paid managers, Web designers, physicians, investment bankers, and other elite professionals. These people work in order to earn their large salaries, but whether through an inheritance or their own savings, they also draw a great deal of income from their financial assets.

In liberal meritocratic capitalism, societies are more equal than they were during the phase of classical capitalism, women and ethnic minorities are more empowered to enter the workforce, and welfare provisions and social transfers (paid out of taxes) are employed in an attempt to mitigate the worst ravages of acute concentrations of wealth and privilege. Liberal meritocratic capitalism inherited those last measures from its direct predecessor, social democratic capitalism.

That model was structured around industrial labor and featured the strong presence of unions, which played a huge role in shrinking inequality. Social democratic capitalism presided over an era that saw measures such as the GI Bill and the 1950 Treaty of Detroit (a sweeping, union-negotiated contract for autoworkers) in the United States and economic booms in France and Germany, where incomes rose. Growth was distributed fairly evenly; populations benefited from better access to health care, housing, and inexpensive education; and more families could climb up the economic ladder.

But the nature of work has changed significantly under globalization and liberal meritocratic capitalism, especially with the winnowing away of the industrial working class and the weakening of labor unions. Since the late twentieth century, the share of capital income in total income has been rising—that is, an increasing portion of GDP belongs to the profits made by big corporations and the already wealthy. This tendency has been quite strong in the United States, but it has also been documented in most other countries, whether developing or developed. A rising share of capital income in total income implies that capital and capitalists are becoming more important than labor and workers, and so they acquire more economic and political power. It also means an increase in inequality, because those who draw a large share of their income from capital tend to be rich.

MALAISE IN THE WEST

While the current system has produced a more diverse elite (in terms of both gender and race), the setup of liberal capitalism has the consequence of at once deepening inequality and screening that inequality behind the veil of merit. More plausibly than their predecessors in the Gilded Age, the wealthiest today can claim that their standing derives from the virtue of their work, obscuring the advantages they have gained from a system and from social trends that make economic mobility harder and harder. The last 40 years have seen the growth of a semipermanent upper class that is increasingly isolated from the rest of society. In the United States, the top ten percent of wealth holders own more than 90 percent of the financial assets. The ruling class is highly educated, many of its members work, and their income from that labor tends to be high. They tend to believe that they deserve their high standing.

These elites invest heavily both in their progeny and in establishing political control. By investing in their children's education, those at the top enable future generations of their kind to maintain high labor income and the elite status that is traditionally associated with knowledge and education. By investing in political influence—in elections, think tanks, universities, and so on—they ensure that they are the ones who determine the rules of inheritance, so that financial capital is easily transferred to the next generation. The two together (acquired education and transmitted capital) lead to the reproduction of the ruling class.

The formation of a durable upper class is impossible unless that class exerts political control. In the past, this happened naturally; the political class came mostly from the rich, and so there was a certain commonality of views and shared interests between politicians and the rest of the rich. That is no longer the case: politicians come from various social classes and backgrounds, and many of them share sociologically very little, if anything, with the rich. Presidents Bill Clinton and Barack Obama in the United States and Prime Ministers Margaret Thatcher and John Major in the United Kingdom all came from modest backgrounds but quite effectively supported the interests of the one percent.

In a modern democracy, the rich use their political contributions and the funding or direct ownership of think tanks and media outlets to purchase economic policies that benefit them: lower taxes on high incomes, bigger tax deductions, higher capital gains through tax cuts to the corporate sector, fewer regulations, and so on. These policies, in turn, increase the likelihood that the rich will stay on top, and they form the ultimate link in the chain that runs from the higher share of capital in a country's net income to the creation of a self-serving upper class. If the upper class did not try to co-opt politics, it would still enjoy a very strong position; when it spends on electoral processes and builds its own civil society institutions, the position of the upper class becomes all but unassailable.

As the elites in liberal meritocratic capitalist systems become more cordoned off, the rest of society grows resentful. Malaise in the West about globalization is largely caused by the gap between the small number of elites and the masses, who have seen little benefit from globalization and, accurately or not, regard global trade and immigration as the cause of their ills. This situation eerily resembles what used to be called the "disarticulation" of Third World societies in the 1970s, such as was seen in Brazil, Nigeria, and Turkey. As their bourgeoisies were plugged into the global economic system, most of the hinterland was left behind. The disease that was supposed to affect only developing countries seems to have hit the global North.

CHINA'S POLITICAL CAPITALISM

In Asia, globalization doesn't have that same reputation: according to polls, 91 percent of people in Vietnam, for instance, think globalization is a force for good. Ironically, it was communism in countries such as China and Vietnam that laid the groundwork for their eventual capitalist transformation. The Chinese Communist Party came to power in 1949 by prosecuting both a national revolution (against foreign domination) and a social revolution (against feudalism), which allowed it to sweep away all ideologies and customs that were seen as slowing economic development and creating artificial class divisions. (The much less radical Indian independence struggle, in contrast, never succeeded in erasing the caste system.) These two simultaneous revolutions were a precondition, over the long term, for the creation of an indigenous capitalist class that would pull the economy forward. The communist revolutions in China and Vietnam played functionally the same role as the rise of the bourgeoisie in nineteenth-century Europe.

In China, the transformation from quasi feudalism to capitalism took place swiftly, under the control of an extremely powerful state. In Europe, where feudal structures were eradicated slowly over centuries, the state played a far less important role in the shift to capitalism. Given this history, then, it is no surprise that capitalism in China, Vietnam, and elsewhere in the region has so often had an authoritarian edge.

The system of political capitalism has three defining features. First, the state is run by a technocratic bureaucracy, which owes its legitimacy to economic growth. Second, although the state has laws, these are applied arbitrarily, much to the benefit of elites, who can decline to apply the law when it is inconvenient or apply it with full force to punish opponents. The arbitrariness of the rule of law in these societies feeds into political capitalism's third defining feature: the necessary autonomy of the state. In order for the state to act decisively, it needs to be free from legal constraints. The tension between the first and second principles—between technocratic bureaucracy and the loose application of the law—produces corruption, which is an integral part of the way the political capitalist system is set up, not an anomaly.

Since the end of the Cold War, these characteristics have helped supercharge the growth of ostensibly communist countries in Asia. Over a 27-year period ending in 2017, China's growth rate averaged about eight percent and Vietnam's averaged around six percent, compared with just two percent in the United States.

The flip side of China's astronomic growth has been its massive increase in inequality. From 1985 to 2010, the country's Gini coefficient leapt from 0.30 to around 0.50—higher than that of the United States and closer to the levels found in Latin America. Inequality in China has risen starkly within both rural and urban areas, and it has risen even more so in the country as a whole because of the increasing gap between those areas. That growing inequality is evident in every divide—between rich and poor provinces, high-skilled workers and low-skilled workers, men and women, and the private sector and the state sector.

Notably, there has also been an increase in China in the share of income from privately owned capital, which seems to be as concentrated there as in the advanced market economies of the West. A new capitalist elite has formed in China. In 1988, skilled and unskilled industrial workers, clerical staff, and government officials accounted for 80 percent of those in the top five percent of income earners. By 2013, their share had fallen by almost half, and business owners (20 percent) and professionals (33 percent) had become dominant.

A remarkable feature of the new capitalist class in China is that it has emerged from the soil, so to speak, as almost four-fifths of its members report having had fathers who were either farmers or manual laborers. This intergenerational mobility is not surprising in view of the nearly complete obliteration of the capitalist class after the Communists' victory in 1949 and then again during the Cultural Revolution in the 1960s. But that mobility may not continue in the future, when—given the concentration of ownership of capital, the rising costs of education, and the importance of family connections—the intergenerational transmission of wealth and power should begin to mirror what is observed in the West.

Compared with its Western counterparts, however, this new capitalist class in China may be more of a class by itself than a class for itself. China's many byzantine forms of ownership—which at the local and national levels blur the lines between public and private—allow the political elite to restrain the power of the new capitalist, economic elite.

For millennia, China has been home to strong, fairly centralized states that have always prevented the merchant class from becoming an independent center of power. According to the French scholar Jacques Gernet, wealthy merchants under the Song dynasty in the thirteenth century never succeeded in creating a self-conscious class with shared interests because the state was always there ready to check their power. Although merchants continued to prosper as individuals (as the new capitalists largely do nowadays in China), they never formed a coherent class with its own political and economic agenda or with interests that were forcefully defended and propagated. This scenario, according to Gernet, differed markedly from the situation around the same time in Italian merchant republics and the Low Countries. This pattern of capitalists enriching themselves without exercising political power will likely continue in China and in other political capitalist countries, as well.

A CLASH OF SYSTEMS

As China expands its role on the international stage, its form of capitalism is invariably coming into conflict with the liberal meritocratic capitalism of the West. Political capitalism might supplant the Western model in many countries around the world.

The advantage of liberal capitalism resides in its political system of democracy. Democracy is desirable in itself, of course, but it also has an instrumental advantage. By requiring constant consultation of the population, democracy provides a powerful corrective to economic and social trends that may be detrimental to the common good. Even if people's decisions sometimes result in policies that reduce the rate of economic growth, increase pollution, or lower life expectancy, democratic decision-making should, within a relatively limited time period, correct such developments.

Political capitalism, for its part, promises much more efficient management of the economy and higher growth rates. The fact that China has been by far the most economically successful country in the past half century places it in a position to legitimately try to export its economic and political institutions. It is doing that most prominently through the Belt and Road Initiative, an ambitious project to link several continents through improved, Chinese-financed infrastructure. The initiative represents an ideological challenge to the way the West has been handling economic development around the world. Whereas the West focuses on building institutions, China is pouring money into building physical things. The BRI will link partnered countries into a Chinese sphere of influence. Beijing even has plans to handle future investment disputes under the jurisdiction of a Chinese-created court—quite a reversal for a country whose "century of humiliation" in the nineteenth century was capped by Americans and Europeans in China refusing to be subject to Chinese laws.

Many countries may welcome being part of the BRI. Chinese investment will bring roads, harbors, railways, and other badly needed infrastructure, and without the type of conditions that often accompany Western investment. China has no interest in the domestic policies of recipient nations; instead, it emphasizes equality in the treatment of all countries. This is an approach that many officials in smaller countries find particularly attractive. China is also seeking to build international institutions, such as the Asian Infrastructure Investment Bank, following the playbook of the United States after World War II, when Washington spearheaded the creation of the World Bank and the International Monetary Fund.

Beijing has another reason to be more active on the international stage. If China refused to advertise its own institutions while the West continued to advance the values of liberal capitalism in China, large swaths of the Chinese population could become more attracted to Western institutions. The current disturbances in Hong Kong have failed to spread anywhere else in China, but they do illustrate real discontent with the arbitrary application of the law, discontent that may not be confined to the former British colony. The blatant censorship of the Internet is also deeply unpopular among the young and educated.

By projecting the advantages of its political capitalism abroad, China will reduce the appeal of the Western liberal model to its own citizens. Its international activities are essentially matters of domestic survival. Whatever formal or informal arrangement Beijing reaches with states that embrace political capitalism, China is bound to exercise increasing influence on international institutions, which in the past two centuries have been built exclusively by Western states, to serve Western interests.

THE FUTURE OF CAPITALISM

John Rawls, the consummate philosopher of modern liberalism, argued that a good society ought to give absolute priority to basic liberties over wealth and income. Experience shows, however, that many people are willing to trade democratic rights for greater income. One need simply observe that within companies, production is generally organized in the most hierarchical fashion, not the most democratic. Workers do not vote on the products they would like to produce or on how they would like to produce them. Hierarchy produces greater efficiency and higher wages. "Technique is the boundary of democracy," the French philosopher Jacques Ellul wrote more than half a century ago. "What technique wins, democracy loses. If we had engineers who were popular with the workers, they would be ignorant of machinery." The same analogy can be extended to society as a whole: democratic rights can be, and have been, given up willingly for higher incomes.

In today's commercialized and hectic world, citizens rarely have the time, the knowledge, or the desire to get involved in civic matters unless the issues directly concern them. It is telling that in the United States, one of the oldest democracies in the world, the election of a president, who, in many respects in the American system, has the prerogatives of an elected king, is not judged of sufficient importance to bestir more than half the electorate to go to the polls. In this respect, political capitalism asserts its superiority.

The problem, however, is that in order to prove its superiority and ward off a liberal challenge, political capitalism needs to constantly deliver high rates of growth. So while liberal capitalism's advantages are natural, in that they are built into the setup of the system, the advantages of political capitalism are instrumental: they must be constantly demonstrated. Political capitalism starts with the handicap of needing to prove its superiority empirically. It faces two further problems, as well. Relative to liberal capitalism, political capitalism has a greater tendency to generate bad policies and bad social outcomes that are difficult to reverse because those in power do not have an incentive to change course. It can also easily engender popular dissatisfaction because of its systemic corruption in the absence of a clear rule of law.

Political capitalism needs to sell itself on the grounds of providing better societal management, higher rates of growth, and more efficient administration (including the administration of justice). Unlike liberal capitalism, which can take a more relaxed attitude toward temporary problems, political capitalism must be permanently on its toes. This may, however, be seen as an advantage from a social Darwinist point of view: because of the constant pressure to deliver more to its constituents, political capitalism might hone its ability to manage the economic sphere and to keep on delivering, year in, year out, more goods and services than its liberal counterpart. What appears at first as a defect may prove to be an advantage.

But will China's new capitalists forever acquiesce to a status quo in which their formal rights can be limited or revoked at any moment and in which they are under the constant tutelage of the state? Or, as they become stronger and more numerous, will they organize, influence the state, and, finally, take it over, as happened in the United States and Europe? The Western path as sketched by Karl Marx seems to have an ironclad logic: economic power tends to emancipate itself and to look after, or impose, its own interests. But the track record of nearly 2,000 years of an unequal partnership between the Chinese state and Chinese business presents a major obstacle to China's following the same path as the West.

The key question is whether China's capitalists will come to control the state and if, in order to do so, they will use representative democracy. In the United States and Europe, capitalists used that cure very carefully, administering it in homeopathic doses as the franchise slowly expanded and withholding it whenever there was a potential threat to the property-owning classes (as in Great Britain after the French Revolution, when the right to vote became even more tightly restricted). Chinese democracy, if it comes, will likely resemble democracy in the rest of the world today, in the legal sense of mandating one vote per person. Yet given the weight of history and the precarious nature and still limited size of China's propertied classes, it is not certain that rule by the middle class could be maintained in China. It failed in the first part of the twentieth century under the Republic of China (which held sway over much of the mainland from 1912 to 1949); only with great difficulty will it be reestablished with greater success 100 years later.

PLUTOCRATIC CONVERGENCE?

What does the future hold for Western capitalist societies? The answer hinges on whether liberal meritocratic capitalism will be able to move toward a more advanced stage, what might be called “people’s capitalism,” in which income from both factors of production, capital and labor, would be more equally distributed. This would require broadening meaningful capital ownership way beyond the current top ten percent of the population and making access to the top schools and the best-paying jobs independent of one’s family background.

To achieve greater equality, countries should develop tax incentives to encourage the middle class to hold more financial assets, implement higher inheritance taxes for the very rich, improve free public education, and establish publicly funded electoral campaigns. The cumulative effect of these measures would be to make more diffuse the ownership of capital and skills in society. People’s capitalism would be similar to social democratic capitalism in its concern with inequality, but it would aspire to a different kind of equality; instead of focusing on redistributing income, this model would seek greater equality in assets, both financial and in terms of skills. Unlike social democratic capitalism, it would require only modest redistributive policies (such as food stamps and housing benefits) because it would have already achieved a greater baseline of equality.

If they fail to address the problem of growing inequality, liberal meritocratic capitalist systems risk journeying down another path—not toward socialism but toward a convergence with political capitalism. The economic elite in the West will become more insulated, wielding more untrammeled power over ostensibly democratic societies, much in the same way that the political elite in China lords over that country. The more that economic and political power in liberal capitalist systems become fused together, the more liberal capitalism will become plutocratic, taking on some features of political capitalism. In the latter model, politics is the way to win economic benefits; in plutocratic—formerly liberal meritocratic—capitalism, economic power will conquer politics. The endpoint of the two systems will be the same: the closing ranks of a privileged few and the reproduction of that elite indefinitely into the future.

The Age of Uneasy Peace

Chinese Power in a Divided World

Yan Xuetong

JANUARY/FEBRUARY 2019

In early October 2018, U.S. Vice President Mike Pence delivered a searing speech at a Washington think tank, enumerating a long list of reproaches against China. From territorial disputes in the South China Sea to alleged Chinese meddling in U.S. elections, Pence accused Beijing of breaking international norms and acting against American interests. The tone was unusually blunt—blunt enough for some to interpret it as a harbinger of a new Cold War between China and the United States.

Such historical analogies are as popular as they are misleading, but the comparison contains a kernel of truth: the post–Cold War interregnum of U.S. hegemony is over, and bipolarity is set to return, with China playing the role of the junior superpower. The transition will be a tumultuous, perhaps even violent, affair, as China's rise sets the country on a collision course with the United States over a number of clashing interests. But as Washington slowly retreats from some of its diplomatic and military engagements abroad, Beijing has no clear plan for filling this leadership vacuum and shaping new international norms from the ground up.

What kind of world order will this bring? Contrary to what more alarmist voices have suggested, a bipolar U.S.-Chinese world will not be a world on the brink of apocalyptic war. This is in large part because China's ambitions for the coming years are much narrower than many in the Western foreign policy establishment tend to assume. Rather

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than unseating the United States as the world's premier superpower, Chinese foreign policy in the coming decade will largely focus on maintaining the conditions necessary for the country's continued economic growth—a focus that will likely push leaders in Beijing to steer clear of open confrontation with the United States or its primary allies. Instead, the coming bipolarity will be an era of uneasy peace between the two superpowers. Both sides will build up their militaries but remain careful to manage tensions before they boil over into outright conflict. And rather than vie for global supremacy through opposing alliances, Beijing and Washington will largely carry out their competition in the economic and technological realms. At the same time, U.S.-Chinese bipolarity will likely spell the end of sustained multilateralism outside strictly economic realms, as the combination of nationalist populism in the West and China's commitment to national sovereignty will leave little space for the kind of political integration and norm setting that was once the hallmark of liberal internationalism.

WHAT CHINA WANTS

China's growing influence on the world stage has as much to do with the United States' abdication of its global leadership under President Donald Trump as with China's own economic rise. In material terms, the gap between the two countries has not narrowed by much in recent years: since 2015, China's GDP growth has slowed to less than seven percent a year, and recent estimates put U.S. growth above the three percent mark. In the same period, the value of the renminbi has decreased by about ten percent against the U.S. dollar, undercutting China's import capacity and its currency's global strength. What has changed a great deal, however, is the expectation that the United States will continue to promote—through diplomacy and, if necessary, military power—an international order built for the most part around liberal internationalist principles. Under Trump, the country has broken with this tradition, questioning the value of free trade and embracing a virulent, no-holds-barred nationalism. The Trump administration is modernizing the U.S. nuclear arsenal, attempting to strong-arm friends and foes alike, and withdrawing from several international accords and institutions. In 2018 alone, it ditched the Intermediate-Range Nuclear Forces Treaty, the nuclear deal with Iran, and the UN Human Rights Council.

It is still unclear if this retrenchment is just a momentary lapse—a short-lived aberration from the norm—or a new U.S. foreign policy paradigm that could outlive Trump's tenure. But the global fallout of Trumpism has already pushed some countries toward China in ways that would have seemed inconceivable a few years ago. Take Japanese Prime Minister Shinzo Abe, who effectively reversed Japan's relations with China, from barely hidden hostility to cooperation, during a state visit to Beijing in October 2018, when China and Japan signed over 50 agreements on economic cooperation. Meanwhile, structural factors keep widening the gap between the two global front-runners, China and the United States, and the rest of the world. Already, the two countries' military spending dwarfs everybody else's. By 2023, the U.S. defense budget may reach $800 billion, and the Chinese one may exceed $300 billion, whereas no other global power will spend more than $80 billion on its forces. The question, then, is not whether a bipolar U.S.-Chinese order will come to be but what this order will look like.

At the top of Beijing's priorities is a liberal economic order built on free trade. China's economic transformation over the past decades from an agricultural society to a major global powerhouse—and the world's second-largest economy—was built on exports. The country has slowly worked its way up the value chain, its exports beginning to compete with those of highly advanced economies. Now as then, these exports are the lifeblood of the Chinese economy: they ensure a consistent trade surplus, and the jobs they create are a vital engine of domestic social stability. There is no indication that this will change in the coming decade. Even amid escalating trade tensions between Beijing and Washington, China's overall export volume continued to grow in 2018. U.S. tariffs may sting, but they will neither change Beijing's fundamental incentives nor portend a general turn away from global free trade on its part.

Quite to the contrary: because China's exports are vital to its economic and political success, one should expect Beijing to double down on its attempts to gain and maintain access to foreign markets. This strategic impetus is at the heart of the much-touted Belt and Road Initiative, through which China hopes to develop a vast network of land and sea routes that will connect its export hubs to far-flung markets. As of August 2018, some 70 countries and organizations had signed contracts with China for projects related to the initiative, and this number is set to increase in the coming years. At its 2017 National Congress, the Chinese Communist Party went so far as to enshrine a commitment to the initiative in its constitution—a signal that the party views the infrastructure project as more than a regular foreign policy. China is also willing to further open its domestic markets to foreign goods in exchange for greater access abroad. Just in time for a major trade fair in Shanghai in November 2018—designed to showcase the country's potential as a destination for foreign goods—China lowered its general tariff from 10.5 percent to 7.8 percent.

Given this enthusiasm for the global economy, the image of a revisionist China that has gained traction in many Western capitals is misleading. Beijing relies on a global network of trade ties, so it is loath to court direct confrontation with the United States. Chinese leaders fear—not without reason—that such a confrontation might cut off its access to U.S. markets and lead U.S. allies to band together against China rather than stay neutral, stripping it of important economic partnerships and valuable diplomatic connections. As a result, caution, not assertiveness or aggressiveness, will be the order of the day in Beijing's foreign policy in the coming years. Even as it continues to modernize and expand its military, China will carefully avoid pressing issues that might lead to war with the United States, such as those related to the South China Sea, cybersecurity, and the weaponization of space.

NEW RULES?

Indeed, much as Chinese leaders hope to be on par with their counterparts in Washington, they worry about the strategic implications of a bipolar U.S.-Chinese order. American leaders balk at the idea of relinquishing their position at the top of the global food chain and will likely go to great lengths to avoid having to accommodate China. Officials in Beijing, in no hurry to become the sole object of Washington's apprehension and scorn, would much rather see a multipolar world in which other challenges—and challengers—force the United States to cooperate with China.

In fact, the United States' own rise in the nineteenth and early twentieth centuries provides something of a model for how the coming power transition may take place. Because the United Kingdom, the world's undisputed hegemon at the time, was preoccupied with fending off a challenger in its vicinity—Germany—it did not bother much to contain the rise of a much bigger rival across the pond. China is hoping for a similar dynamic now, and recent history suggests it could indeed play out. In the early months of George W. Bush's presidency, for instance, relations between Beijing and Washington were souring over regional disputes in the South China Sea, reaching a boiling point when a Chinese air force pilot died in a midair collision with a U.S. surveillance plane in April 2001. Following the 9/11 attacks a few months later, however, Washington came to see China as a useful strategic partner in its global fight against terrorism, and relations improved significantly over the rest of Bush's two terms.

Today, unfortunately, the list of common threats that could force the two countries to cooperate is short. After 17 years of counterterrorism campaigns, the sense of urgency that once surrounded the issue has faded. Climate change is just as unlikely to make the list of top threats anytime soon. The most plausible scenario is that a new global economic crisis in the coming years will push U.S. and Chinese leaders to shelve their disagreements for a moment to avoid economic calamity—but this, too, remains a hypothetical.

To make matters worse, some points of potential conflict are here to stay—chief among them Taiwan. Relations between Beijing and Taipei, already tense, have taken a turn for the worse in recent years. Taiwan's current government, elected in 2016, has questioned the notion that mainland China and Taiwan form a single country, also known as the "one China" principle. A future government in Taipei might well push for de jure independence. Yet a Taiwanese independence referendum likely constitutes a redline for Beijing and may prompt it to take military action. If the United States were to respond by coming to Taiwan's aid, a military intervention by Beijing could easily spiral into a full-fledged U.S.-Chinese war. To avoid such a crisis, Beijing is determined to nip any Taiwanese independence aspirations in the bud by political and economic means. As a result, it is likely to continue lobbying third countries to cut off their diplomatic ties with Taipei, an approach it has already taken with several Latin American countries.

Cautious or not, China set somewhat different emphases in its approach to norms that undergird the international order. In particular, a more powerful China will push for a stronger emphasis on national sovereignty in international law. In recent years, some have interpreted public statements by Chinese leaders in support of globalization as a sign that Beijing seeks to fashion itself as the global liberal order's new custodian, yet such sweeping interpretations are wishful thinking: China is merely signaling its support for a liberal economic order, not for ever-increasing political integration. Beijing remains fearful of outside interference, particularly relating to Hong Kong, Taiwan, Tibet, and Xinjiang, as well as on matters of press freedom and online regulations. As a result, it views national sovereignty, rather than international responsibilities and norms, as the fundamental principle on which the international order should rest. Even as a new superpower in the coming decade, China will therefore pursue a less interventionist foreign policy than the United States did at the apex of its power. Consider the case of Afghanistan: even though it is an open secret that the United States expects the Chinese military to shoulder some of the burden of maintaining stability there after U.S. troops leave the country, the Chinese government has shown no interest in this idea.

Increased Chinese clout may also bring attempts to promote a vision of world order that draws on ancient Chinese philosophical traditions and theories of statecraft. One term in particular has been making the rounds in Beijing: *wangdao*, or "humane authority." The word represents a view of China as an enlightened, benevolent hegemon whose power and legitimacy derive from its ability to fulfill other countries' security and economic needs—in exchange for their acquiescence to Chinese leadership.

BIPOLARITY IN PRACTICE

Given the long shadow of nuclear escalation, the risk of a direct war between China and the United States will remain minimal, even as military, technological, and economic competition between them intensifies. Efforts on both sides to build ever more effective antimissile shields are unlikely to change this, since neither China nor the United States can improve its antimissile systems to the point of making the country completely impervious to a nuclear counterattack. If anything, the United States' withdrawal from the Intermediate-Range Nuclear Forces Treaty will encourage both sides to build up their nuclear forces and improve their second-strike capabilities, ensuring that neither side will be confident it can launch a nuclear attack on the other without suffering a devastating retaliation. The threat of nuclear war will also keep Chinese tensions with other nuclear-armed powers, such as India, from escalating into outright war.

Proxy wars, however, cannot be ruled out, nor can military skirmishes among lesser states. In fact, the latter are likely to become more frequent, as the two superpowers' restraint may embolden some smaller states to resolve local conflicts by force. Russia, in particular, may not shy away from war as it tries to regain its superpower status and maintain its influence in eastern Europe and the Middle East. Faced with calls to reform the UN Security Council, fraying powers such as France and the United Kingdom may seek to buttress their claim to permanent membership in the council through military interventions abroad. In the Middle East, meanwhile, the struggle for regional dominance among Iran, Turkey, and Saudi Arabia shows no signs of abating. Across the globe, secessionist conflicts and terrorist attacks will continue to occur, the latter especially if competition between China and the United States reduces their cooperation on counterterrorism measures.

In the economic realm, export-driven economies, such as China, Germany, and Japan, will ensure the survival of a global liberal trade regime built on free-trade agreements and membership in the World Trade Organization—no matter what path the United States takes. On other matters of global governance, however, cooperation is likely to stall. Even if a future U.S. administration led a renewed push toward multilateralism and international norm setting, China's status as a junior superpower would make it difficult for the United States to sustain the strong leadership that has traditionally spurred such initiatives in the past. Differences in ideology and clashing security interests will prevent Beijing and Washington from leading jointly, but neither will have enough economic or military clout to lead on its own. To the extent that multilateral initiatives persist in such a world, they will be limited to either side's respective sphere of influence.

China's emphasis on national sovereignty, together with Western societies' turn away from globalism, will deal an additional blow to multilateralism. The European Union is already fraying, and a number of European countries have reintroduced border controls. In the coming decade, similar developments will come to pass in other domains. As technological innovation becomes the primary source of wealth, countries will become ever more protective of their intellectual property. Many countries are also tightening control of capital flows as they brace for a global economic slump in the near future. And as concerns over immigration and unemployment threaten to undermine Western governments' legitimacy, more and more countries will increase visa restrictions for foreign workers.

Unlike the order that prevailed during the Cold War, a bipolar U.S.-Chinese order will be shaped by fluid, issue-specific alliances rather than rigid opposing blocs divided along clear ideological lines. Since the immediate risk of a U.S.-Chinese war is vanishingly small, neither side appears willing to build or maintain an extensive—and expensive—network of alliances. China still avoids forming explicit alliances, and the United States regularly complains about free-riding allies. Moreover, neither side is currently able to offer a grand narrative or global vision appealing to large majorities at home, let alone to a large number of states.

For some time to come, then, U.S.-Chinese bipolarity will not be an ideologically driven, existential conflict over the fundamental nature of the global order; rather, it will be a competition over consumer markets and technological advantages, playing out in disputes about the norms and rules governing trade, investment, employment, exchange rates, and intellectual property. And rather than form clearly defined military-economic blocs, most states will adopt a two-track foreign policy, siding with the United States on some issues and China on others. Western allies, for instance, are still closely aligned with the United States on traditional security matters inside NATO, and Australia, India, and Japan have supported the U.S. strategy in the Indo-Pacific. At the same time, these states still maintain close trade and investment relations with China, and several of them have sided with Beijing in trying to reform the World Trade Organization.

This two-track strategy shows just how far down the road to bipolarity the world has already advanced. And the fundamental driver of this process—the raw economic and military clout on which American and, increasingly, Chinese dominance rests—will further cement Beijing's and Washington's status as the two global heavyweights in the coming decade. Whether or not the United States recovers from its Trumpian fever and leads a renewed push for global liberalism is, ultimately, of little consequence to the outcome: opposed in their strategic interests but evenly matched in their power, China and the United States will be unable to challenge each other directly and settle the struggle for supremacy definitively. As during the Cold War, each side's nuclear warheads will prevent proxy conflicts from easily escalating into a direct confrontation between the two superpowers. More important still, China's leadership is acutely aware of the benefits its country derives from the status quo, for now—it is chief among the conditions for China's continued economic and soft-power expansion—and will avoid putting these benefits on the line anytime soon, unless China's core interests are in the balance. Chinese leaders will therefore work hard to avoid setting off alarm bells in already jittery Western capitals, and their foreign policy in the coming years will reflect this objective. Expect recurring tensions and fierce competition, yes, but not a descent into global chaos.

A World Safe for Autocracy?

China's Rise and the Future of Global Politics

Jessica Chen Weiss

JULY/AUGUST 2019

The Chinese people, President Xi Jinping proclaimed in 2016, "are fully confident in offering a China solution to humanity's search for better social systems." A year later, he declared that China was "blazing a new trail for other developing countries to achieve modernization." Such claims come as the Chinese Communist Party (CCP) has been extending its reach overseas and reverting to a more repressive dictatorship under Xi after experimenting with a somewhat more pluralistic, responsive mode of authoritarianism.

Many Western politicians have watched this authoritarian turn at home and search for influence abroad and concluded that China is engaged in a life-and-death attempt to defeat democracy—a struggle it may even be winning. In Washington, the pendulum has swung from a consensus supporting engagement with China to one calling for competition or even containment in a new Cold War, driven in part by concerns that an emboldened China is seeking to spread its own model of domestic and international order. Last October, U.S. Vice President Mike Pence decried China's "whole-of-government" effort to influence U.S. domestic politics and policy. In February, Christopher Wray, the director of the FBI, went further: the danger

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from China, he said, was "not just a whole-of-government threat but a whole-of-society threat." Such warnings reflect a mounting fear that China represents a threat not just to specific U.S. interests but also to the very survival of democracy and the U.S.-led international order.

This fear gets the challenge from Beijing wrong. Not since the days of Mao Zedong has China sought to export revolution or topple democracy. Under Xi, the CCP has promoted "the Chinese dream," a parochial vision of national rejuvenation that has little international appeal. China's remarkable economic growth under previous leaders came from experimentation and flexibility, not a coherent "China model."

Since 2012, China's growing authoritarianism and resurgent state dominance over the economy have dashed Western hopes that China would eventually embrace liberalism. And China's actions abroad have offered alternatives to U.S.-led international institutions, made the world safer for other authoritarian governments, and undermined liberal values. But those developments reflect less a grand strategic effort to undermine democracy and spread autocracy than the Chinese leadership's desire to secure its position at home and abroad. Its efforts to revise and work around international institutions are the result of pragmatic decisions about Chinese interests rather than a wholesale rejection of the U.S.-led international order. Beijing's behavior suggests that China is a disgruntled and increasingly ambitious stakeholder in that order, not an implacable enemy of it. In seeking to make the world safer for the CCP, Beijing has rejected universal values and made it easier for authoritarian states to coexist alongside democracies. And within democracies, the CCP's attempts to squelch overseas opposition to its rule have had a corrosive influence on free speech and free society, particularly among the Chinese diaspora.

These are real challenges, but they do not yet amount to an existential threat to the international order or liberal democracy. Successfully competing with China will require more precisely understanding its motives and actions and developing tough but nuanced responses. Overreacting by framing competition with China in civilizational or ideological terms risks backfiring by turning China into what many in Washington fear it already is.

NOT MADE FOR EXPORT

Although Xi has proudly advertised in his rhetoric a Chinese example that other societies could emulate, he has also qualified such statements. In 2017, two months after touting China's modernization at the 19th Party Congress, he told a high-level gathering of foreign leaders that "managing our own affairs well is China's biggest contribution to building a community with a shared future for humanity." He went on: "We will not 'import' a foreign model. Nor will we 'export' a China model, nor ask others to 'copy' Chinese methods." That statement was a reiteration of the Chinese leadership's line ever since it began to reform and open up the economy in the late 1970s. Chinese officials have consistently stressed the unique character of China's development path.

And no wonder: neither China's economic nor its political model is well suited for export. As the economist Barry Naughton has noted, China has benefited from at least three unique economic conditions: an enormous internal market, abundant labor, and a hierarchical authoritarian government committed to a transition away from a planned economy. None of these conditions will be easy for other developing states to copy.

If there is a general principle underlying China's development, it is pragmatism and a willingness to experiment, rather than any particular economic orthodoxy. In the words of the political scientist Yuen Yuen Ang, "directed improvisation," rather than state control, brought about China's economic miracle. The introduction of markets and competition into a state-run economy drove much of China's growth before 2012, when the state began reasserting its dominance over the economy.

Other authoritarian-minded leaders may look to the CCP's long reign with envy, but they will have trouble emulating China's political system. Xi and his predecessors have relied on the CCP's pervasive reach in Chinese society to maintain their rule, backstopped by an internal security apparatus that by 2011 cost more than the Chinese military. Despite its Marxist-Leninist roots, the CCP has been ideologically opportunistic, embracing capitalism and alternately rejecting and celebrating traditional Chinese philosophies such as Confucianism. Responsiveness to public criticism has also helped the CCP survive policy mistakes and improve governance. But the party's recent moves to dominate society and curtail public discussion risk returning China to a more brittle past.

Last year, the Chinese leadership proclaimed "Xi Jinping Thought on Socialism With Chinese Characteristics for a New Era" as its guiding ideology, enshrining it in the Chinese constitution and promoting it to Chinese citizens with a smartphone app. Xi's signature "Chinese dream" is a nationalist vision focused on delivering wealth and power to the

Chinese people, with the CCP in command. As the legal scholar Margaret Lewis has written, "China's Party-state structure is rooted in a particular history that does not lend itself to an easy copy-and-paste abroad."

A HELPING HAND FOR AUTOCRATS

Yet China has still made it easier for authoritarianism to thrive elsewhere. The country's four decades of rapid economic growth have demonstrated that development does not require democracy. In the words of the political scientist Seva Gunitsky, "Material success . . . often creates its own legitimacy: regimes become morally appealing simply by virtue of their triumph."

Beijing also supports autocracies in more direct ways, especially through international institutions. Along with Russia, China has regularly used its veto in the UN Security Council to shield other authoritarian countries from international demands to protect human rights and to block interventions that would force governments to end abuses. China has styled itself as a conservative defender of international norms, protecting state sovereignty against what it sees as unlawful humanitarian interventions. China's growing economic clout has also led other states, particularly those in Africa and Latin America that trade heavily with China, to join Beijing in opposing human rights resolutions in the UN General Assembly.

But China has not always used its power in the UN Security Council to defend authoritarian states from international pressure. It has voted several times for UN sanctions resolutions against Iran and North Korea and has pushed other countries, including Myanmar and Sudan, to curb political violence. "Despite its equivocations," the political scientist Joel Wuthnow has pointed out, "China cannot be simply described as a patron of rogue regimes."

For example, in the early years of this century, when the Sudanese government was carrying out a campaign of genocidal violence in Darfur, China sold weapons to the regime and tried to temper international sanctions. But under international pressure in advance of the 2008 Beijing Olympics, China prevailed on Khartoum to accept a peacekeeping force that included Chinese peacekeepers.

In 2011, Beijing surprised many international observers by voting for sanctions against Libya and in favor of referring the Libyan dictator Muammar al-Qaddafi to the International Criminal Court. China then chose not to block a UN Security Council resolution authorizing the military intervention in Libya that led to Qaddafi's violent ouster. Having learned from that experience, during the civil war in Syria, China has reserved its veto for those resolutions it believes threaten forcible regime change. China's overall approach to the UN reflects a conservative position on the balance between sovereignty and human rights, tempered by a desire to avoid the political costs of taking unpopular stands.

Critics often accuse Beijing of supporting authoritarian countries by providing them with unconditional loans and aid. There is some truth to this claim, but the picture is more complicated than critics usually suggest. China's official development assistance tends to follow its political interests rather than target particular types of governments according to their level of democracy or corruption. China also provides an attractive alternative source of finance to governments unable or unwilling to meet the requirements of other international lenders. Indeed, compared with other international sources of finance, Chinese loans may actually operate more effectively in badly governed places, as they are often tied to specific infrastructure projects, such as new roads, schools, power plants, or sewage systems. Complaints that Beijing's lending props up dictators can also ring hollow given the long record of the U.S. government, international banks, and multinational oil and mining corporations sustaining strategically important or resource-rich dictatorships.

China has also begun to introduce requirements on Chinese companies aimed at reducing the negative effects of investments on local communities and curtailing vanity projects, although Beijing's diplomatic and strategic interests can still override these concerns. Under international pressure, the Chinese-led Asian Infrastructure Investment Bank has adopted norms about the environmental and social consequences of its policies similar to those in developed countries. In April, Christine Lagarde, the managing director of the International Monetary Fund, applauded Beijing's announcement of a debt-sustainability framework in response to international criticism of Xi's Belt and Road Initiative. Chinese aid and finance may not improve governance in the developing world, but it's not clear that they will worsen it either.

China also rightly gets heat from Western observers for exporting surveillance and censorship technologies. China's heavy investments in these technologies have made it cheaper for other authoritarian and would-be authoritarian regimes to monitor their citizens. Chinese companies have sold surveillance systems, including AI-powered facial recognition technology, to several countries, including Ecuador, Iran, Kenya, Venezuela, and Zimbabwe. Some government officials around the world look to China's example when it comes to managing the Internet and social media. As Tanzania's deputy minister for transport and communications noted in 2017, "Our Chinese friends have managed to block such media [Facebook, Twitter, and Instagram] in their country and replaced them with their homegrown sites that are safe, constructive, and popular. We aren't there yet, but while we are still using these platforms, we should guard against their misuse."

Yet as with Chinese lending, the story of Chinese technology is more complicated than it first appears. The diffusion of digital authoritarianism is not the same thing as an intentional effort to remake other governments in China's image. And repression is not the only use for many of the technologies China exports. The Chinese telecommunications company ZTE, for instance, has been criticized for helping develop Venezuela's new national identity card system, which the Venezuelan authorities realized, after a visit to Shenzhen in 2008, would allow them to monitor citizens' behavior. But China isn't the only exporter of electronic identification systems. A recent article published by the Council on Foreign Relations, for example, praised British-made electronic ID cards that would "allow Rwandans to efficiently access government services." When the U.S. Commerce Department considered banning the export of technology that could be used for surveillance, many U.S. technology companies pointed out that such technology also protects digital networks from intruders.

Although these systems can help governments monitor and control their people, how exactly they are used depends on local politics. Cameras can replace more brute-force methods of surveillance, as in Ecuador, which, beginning in 2011, installed a monitoring system with China's help. But as *The New York Times* reported, many Ecuadorians have complained that the system hasn't done enough to cut crime, as the authorities haven't hired enough police officers to monitor the footage or respond to crimes caught on camera. And the Ecuadorian administration that came to power in 2017, which has pledged to reverse some of its predecessor's autocratic policies, has begun an investigation into alleged abuses of the monitoring system, including inviting the *Times* to review its records.

Ultimately, the political effects of technology can cut both ways. Just as the Internet did not bring democratic freedom to every country, so surveillance technology does not magically enable governments to control society. Technology can empower the state, but strong democratic institutions can also constrain the power of technology.

Many Western leaders also worry that Beijing is working to undermine democratic systems. The openness of democratic societies has allowed their adversaries, primarily Russia, to sow discord, paralyze debate, and influence elections. Although there is no evidence that China has illegally interfered in U.S. elections, despite allegations by U.S. President Donald Trump, some of the CCP's overseas activities have stifled open discussion, particularly among the Chinese diaspora. Yet Beijing's aim is to advance its interests and portray Chinese actions in a positive light, not to export a particular form of government.

Beijing has devoted resources to improving China's image, sometimes in worrying ways. Since 2004, Beijing has funded several hundred Confucius Institutes, which teach Mandarin, around the world. Concerns that the institutes infringe on academic freedom have led universities to close a number of them and academics to call for greater transparency in their operations. Beijing has also strengthened what it calls its "discourse power" by investing in English-language print and broadcast media, including the *China Daily* insert in *The Des Moines Register* that Trump criticized last year. The danger is that many people may not notice that the news they are reading or watching is paid for by the Chinese government. Beijing has become more aggressive in its use of what the National Endowment for Democracy experts Christopher Walker and Jessica Ludwig have called "sharp power." It has threatened to ban airlines, hotels, and other international corporations from operating in China unless they toe the party's line on Taiwan and Tibet. Last year, for example, American Airlines, Delta, and United all removed references to Taiwan from their websites at the insistence of the Chinese government.

Beijing has also used a variety of tactics to co-opt and intimidate the Chinese diaspora. In particular, it has bought or leaned on Chinese-language media outlets abroad in order to suppress criticism of the CCP. Some of the most alarming evidence of China's influence has come from Australia and New Zealand. In Australia, a storm of controversy around Beijing-linked political donations, pressure, and compromising relationships recently resulted in new laws against foreign interference.

These efforts to coerce the Chinese diaspora, combined with Beijing's campaign to shape the international media narrative about China, go well beyond so-called soft power. Although the CCP's primary purpose is not to undermine democracy, its activities threaten the healthy functioning of democratic civil society and the public's access to alternative sources of information. Yet Western countries should recognize that the threat comes from the CCP, not the Chinese people or the Chinese diaspora. If governments pass and enforce laws against foreign interference, Chinese efforts need not constitute an existential threat to liberal democracy.

HOW THE PARTY HURTS ITSELF

In making the world safer for the CCP's interests, Beijing has projected a parochial, ethnocentric brand of authoritarian nationalism. That vision may be intended to help preserve the CCP's domestic rule, but it is more likely to repel international audiences than attract them. Xi's signature slogan, "the Chinese dream," reflects a self-centered CCP rhetoric that is likely to prevent Chinese political concepts from gaining universal appeal.

Growing repression at home is also tarnishing China's image abroad. Over the past two years, the CCP has built a dystopian police state in the northwestern region of Xinjiang and a network of internment camps to detain as many as one million of the Muslim Uighur community. The scale and intensity of the CCP's attempt to "reeducate" the Uighurs have drawn condemnation from the international human rights community, as well as statements of concern from the Organization of Islamic Cooperation and political leaders in Indonesia, Malaysia, and Turkey, all three of which are Muslim-majority countries important to Xi's Belt and Road Initiative.

Polls of global public opinion suggest that most people around the world still prefer U.S. leadership to the prospect of Chinese leadership. In a survey of people in 25 countries conducted by the Pew Research Center last year, respondents were asked to state whether U.S. or Chinese leadership would be better for the world. An average of 63 percent said they would prefer U.S. leadership; just 19 percent opted for Chinese leadership.

Even within China, many Chinese citizens are dubious of the CCP's heavy-handed nationalist propaganda and the personality cult growing around Xi. In 2012, the year Xi took the helm, a massive wave of anti-Japanese protests swept China. Since then, the Chinese government has kept a tight leash on grass-roots activism and promoted state-led nationalism in its place. The CCP has rolled out new holidays to commemorate World War II, blockbuster films to celebrate China's military prowess, and a smartphone app, Study the Great Nation, to promote "Xi Jinping Thought."

Blanketing the airwaves and the Internet with propaganda may foster the appearance of conformity, but it can also hide public disenchantment. In my conversations with Chinese citizens and scholars, many said they felt paralyzed by the political climate; one scholar in Beijing even said that he was afraid of speaking honestly for fear of retaliation in "a new Cultural Revolution." An extensive crackdown on corruption has also stifled policy initiatives at lower levels of government, as officials fear that taking any action will lead to retribution. Echoing the dismay of many Chinese elites at Xi's move to scrap presidential term limits, the Chinese law professor Xu Zhangrun published an online critique of Xi's turn toward one-man rule, which led to Xu's suspension from Tsinghua University. Xu wrote that "people nationwide, including the entire bureaucratic elite, feel once more lost in uncertainty about the direction of the country" under Xi and warned that "the rising anxiety has spread into a degree of panic throughout society." Despite this discontent, opinions polls in China show that the public is still quite hawkish, putting pressure on the leadership to stand tough in international disputes.

Overseas, China's policies are arousing fear and suspicion in the very societies whose goodwill China needs if it is to maintain access to foreign markets, resources, and technology. In the South China Sea, Beijing has artificially enlarged islands to support advanced military capabilities and claimed the right to fish and extract oil and gas, stoking resentment and anti-China protests in the Philippines and Vietnam. Its actions have even aroused suspicion in countries, such as Indonesia, that do not have competing territorial claims in the South China Sea.

China's state-directed efforts to dominate emerging technologies, such as its Made in China 2025 program, have added to fears that open trade, investment, and research will undermine U.S. national security. In the United States and Europe, trade deficits and a backlash against globalization have made China an easy target for resurgent nationalism. Many politicians, especially those who otherwise support free trade, have found it convenient to bash China.

GETTING CHINA RIGHT

If Beijing were truly bent on destroying democracy and spreading authoritarianism, containment might be the right response. But a U.S. strategy of countering Chinese influence everywhere it appears in the name of fighting an ideological battle against a hostile civilization would be dangerously misguided. Such a strategy would damage U.S. economic growth and innovation, limit the freedom and openness of U.S. society, and risk becoming a self-fulfilling prophecy.

Democracy has retreated across the globe, but critics often exaggerate Beijing's role in that trend. The CCP welcomes democratic dysfunction abroad, as it makes the party look better by comparison. But democratic backsliding does not reflect a grand strategic plan in Beijing. The best approach for those who wish to counter the spread of authoritarianism is to defend and restore democracy. The United States should recommit itself to certain basic principles: the rule of law, fair elections, free speech, and freedom of the press. Where Chinese actions violate those principles, the United States should confront those responsible and join other like-minded governments to protect shared values. By recommitting to working with democratic allies and multilateral institutions, the United States could renew faith in its leadership.

When Chinese actions do not violate democratic principles, the United States should work with China to address common problems. Other countries will not be able to solve the greatest challenge humanity faces—climate change—without China's help. Under Xi, the Chinese public has acquired a taste for international leadership. Governments should welcome that trend when Chinese leadership promises to advance the global good, while criticizing Chinese actions when they fall short. Such a strategy has the added benefit of being more likely to win support from those within China who are seeking change.

At home and abroad, the CCP is fighting a defensive ideological battle against liberal norms of democracy and human rights, but so far at least, it is not engaged in a determined effort to spread autocracy. In order to respond to Beijing's actions effectively, the United States and its allies will need to be more precise about what exactly China is doing. In the end, the best way to respond to China is to make democracy work better. That would set an example for others to follow and allow the democratic world to compete with the true sources of China's international power: its economic and technological might.

With Great Demographics Comes Great Power

Why Population Will Drive Geopolitics

Nicholas Eberstadt

JULY/AUGUST 2019

Demographics may not be destiny, but for students of geopolitics, they come close. Although conventional measures of economic and military power often receive more attention, few factors influence the long-term competition between great powers as much as changes in the size, capabilities, and characteristics of national populations.

The United States is a case in point. In 1850, the United States was home to some 23 million people, 13 million fewer than France. Today, the U.S. population is close to 330 million, larger than the British, Dutch, French, German, and Italian populations combined. For more than a century, the United States has had the world's largest skilled work force, and by measures such as mean years of adult schooling, it has long had among the world's most highly educated populations. These favorable demographic fundamentals, more than geography or natural resources, explain why the United States emerged as the world's preeminent economic and military power after World War II—and why it still occupies that position today.

Yet past performance is no guarantee of future results. Thanks in large part to demographics, rival states such as China have become genuine great-power competitors over the past few decades. The United

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States, meanwhile, has eroded or squandered its demographic edge in a number of ways, even as its traditional allies in Europe and Asia have struggled with population stagnation or decline. So far, the damage to U.S. power has been limited by the fact that the United States' main geopolitical rivals face serious demographic problems of their own. Gazing further into the future, however, population growth and rising levels of education may propel new countries toward great-power status.

Demographics offer a clue to the geopolitical world of the future—and how Washington should prepare for it. To maintain the United States' edge, American leaders must take steps to slow or reverse the negative demographic trends now eating away at the foundations of U.S. power. They must also begin to rethink Washington's global strategy, recognizing that the future of the U.S.-led international order lies with the young and growing democracies of the developing world. With wise domestic policy and farsighted diplomacy, U.S. leaders can ensure that their country's still considerable human resources reinforce American power long into the coming century.

PEOPLE POWER

For premodern empires and kingdoms, a larger population meant more people to tax and send off to war. But thanks to modern economic development, demographics are more important now than ever before. Since the Industrial Revolution, technological innovations and other improvements in human productivity have led to a long-term decline in the price of natural resources and basic commodities such as food. At the same time, they have greatly increased the returns to skilled labor. In fact, most global economic growth since World War II can be attributed to two factors: improvements in human capital—a catchall term for education, health, nutrition, training, and other factors that determine an individual worker's potential—and favorable business climates, which allowed the value of those human resources to be unlocked. Human capital, in particular, has an extraordinary impact on economies. For each year of increased life expectancy today, for instance, a country sees a permanent increase in per capita income of about four percent. And for each additional year of schooling that a country's citizens obtain, the country sees, on average, a ten percent increase in per capita GDP.

Vast disparities between human capital development in different countries have produced gaps in economic productivity that are larger today than at any previous point in history. For example, in 2017, according to World Bank estimates, Ireland's per capita GDP was roughly 100 times as high as that of the Central African Republic (when adjusted for relative purchasing power). Yet such disparities are not set in stone: thanks to technological breakthroughs, nations can now augment their human capital faster than ever before. It took Sweden from 1886 to 2003 to raise its life expectancy from 50 years to 80 years; South Korea accomplished the same feat in less than half the time, between the late 1950s and 2009.

Despite the possibility of such rapid and often unexpected improvements in human capital, demography as a whole is a fairly predictable social science. Unlike economic or technological forecasts, population projections tend to be reasonably accurate for at least a few decades, since most of the people who will be living in the world of 2040, for example, are already alive today. And although such projections cannot predict the future, they can offer a rough guide to the emerging contours of international politics—the changing realm of the possible in world affairs. Policymakers who want to plan for the long term should be paying attention.

POPULATION PROBLEMS IN THE PRC

Today, the international arena is dominated by one superpower (the United States) and two great powers (China and Russia). Recent U.S. misadventures abroad and political turbulence at home have naturally led some to suggest that American power is on the wane. A look at demographic projections for China and Russia, however, suggests that fears that the United States will lose its position of primacy anytime soon are misplaced.

China is the United States' main international rival, and at first glance, it is an impressive rival indeed. It is the world's most populous country, with almost 1.4 billion people, and over the past four decades, it has seen the most rapid and sustained burst of economic growth in human history. Adjusting for relative purchasing power, the Chinese economy is now the largest in the world. China's growth since the 1970s is usually attributed to the policies of Deng Xiaoping, who pushed the country in a more market-friendly direction after becoming the paramount leader in 1978. But demographics also played a critical role. Between 1975 and 2010, China's working-age population (those aged 15–64) nearly doubled, and total hours worked grew even faster, as the country abandoned the

Maoist policies that had made paid labor both less available and less appealing. Overall health and educational attainment rose rapidly, as well.

Given this impressive record, many—apparently including China's leadership—expect that China will surpass the United States as the world's leading power sometime in the next two decades. Yet the country's longer-term demographic prospects suggest otherwise. Over the past two generations, China has seen a collapse in fertility, exacerbated by Beijing's ruthless population-control programs. The one-child policy, introduced in 1979, was ended in 2015, but the damage had already been done. China's total fertility rate (TFR) has been below the replacement level of 2.1 children per woman since at least the early 1990s. According to the UN Population Division, China's TFR now stands at 1.6, but some analysts, such as Cai Fang, a Chinese demographer and member of the Standing Committee of the National People's Congress, believe it may be as low as 1.4—more than 30 percent below replacement. In major cities such as Shanghai, fertility may stand at one birth per woman or less.

With decades of extremely low fertility in its immediate past, decades more of that to come, and no likelihood of mass immigration, China will see its population peak by 2027, according to projections by the U.S. Census Bureau. Its working-age population has already been shrinking for the past five years, and it is set to decrease by at least 100 million between 2015 and 2040. The country will see a particularly large decline in its working-age population under 30, which may plunge by nearly 30 percent over these years. Although this rising generation will be the best educated in Chinese history, the country's overall growth in educational attainment will slow as the less educated older generations come to make up a larger and larger share of the total population. The Wittgenstein Centre for Demography and Global Human Capital estimates that by 2040, China's adult population will have fewer average years of schooling than that of Bolivia or Zimbabwe.

As China's working population slumps, its over-65 population is set to explode. Between 2015 and 2040, the number of Chinese over the age of 65 is projected to rise from about 135 million to 325 million or more. By 2040, China could have twice as many elderly people as children under the age of 15, and the median age of China's population could rise to 48, up from 37 in 2015 and less than 25 in 1990. No country has ever gone gray at a faster pace. The process will be particularly extreme in rural China, as young Chinese migrate to the cities in search of opportunity. On the whole, China's elderly in

2040 will be both poor and poorly educated, dependent on others for the overwhelming majority of their consumption and other needs.

Taken together, these unfavorable demographic trends are creating heavy headwinds for the Chinese economy. To make matters worse, China faces additional adverse demographic factors. Under the one-child policy, for instance, Chinese parents often opted for an abortion over giving birth to a girl, creating one of the most imbalanced infant and child sex ratios in the modern world. In the years ahead, China will have to deal with the problem of tens of millions of surplus men, mostly from disadvantaged rural backgrounds, with no prospects of marrying, having children, or continuing their family line.

China will also face a related problem over the next generation, as traditional Chinese family structures atrophy or evaporate. Since the beginning of written history, Chinese society has relied on extended kinship networks to cope with economic risks. Yet a rising generation of urban Chinese youth is made up of only children of only children, young men and women with no siblings, cousins, aunts, or uncles. The end of 2,500 years of family tradition will be a departure into the unknown for Chinese civilization—and Beijing is manifestly unprepared for this impending great leap.

THE RUSSIAN PARADOX

For Russia, the demographic outlook may be even worse. The Kremlin sees itself as helming a global power, yet its grandiose self-conception is badly mismatched with the human resources at its disposal. From the standpoint of population and human capital, Russia looks like a power in the grip of all but irremediable decline.

In some respects, Russia is a typical European country: it has an aging, shrinking population and difficulties assimilating the low-skilled immigrant work force on which its economy increasingly depends. When it comes to human capital, however, Russia faces an acute crisis. After fully half a century of stagnation or regression, Russia has finally seen an improvement over the last decade in the overall health of its people, as evidenced by measures such as life expectancy at birth. But the situation is still dire. In 2016, according to the World Health Organization, 15-year-old Russian males could expect to live another 52.3 years: slightly less than their counterparts in Haiti. Fifteen-year-old Russian females, although better off than the males, had a life expectancy only slightly above the range for the UN's roster of least developed countries.

In addition to its health problems, Russia is failing in knowledge production. Call it "the Russian paradox": high levels of schooling, low levels of human capital. Despite an ostensibly educated citizenry, Russia (with a population of 145 million) earns fewer patents each year from the U.S. Patent and Trademark Office than the state of Alabama (population: five million). Russia earns less from service exports than Denmark, with its population of six million, and has less privately held wealth than Sweden, with a population of ten million. And since Russia's working-age population is set to age and shrink between 2015 and 2040, its relative economic potential will diminish, too.

Ambitious revisionist states such as Russia can, for a time, punch above their weight in international affairs. Yet for all of Russian President Vladimir Putin's foreign meddling and military adventurism, his country is facing demographic constraints that will make it extraordinarily difficult for him and his successors to maintain, much less seriously improve, Russia's geopolitical position.

THE AMERICAN ADVANTAGE

Relative to its principal rivals, the United States is in an enviable position. This should come as no surprise: the United States has been the most powerful country in the world since World War II, and its demographic advantages—its large and highly educated population, relatively high fertility rates, and welcoming immigration policies—have been crucial to that success.

The United States' most obvious demographic advantage is its size. It is the world's third most populous country, and it is likely to remain so until 2040. No other developed country even comes close—the second and third largest, Japan and Germany, have populations that are two-fifths and one-fourth the size of the U.S. population, respectively. Between 1990 and 2015, the United States generated nearly all the population growth for the UN's "more developed regions," and both UN and U.S. Census Bureau projections suggest that it will generate all of these regions' population growth between 2015 and 2040. In fact, excluding sub-Saharan Africa—the only region where the rate of population growth is still increasing—the U.S. population is on track to grow slightly faster than the world population between now and 2040.

The United States benefits from what might be called "American demographic exceptionalism." Compared with other developed countries, the United States has long enjoyed distinctly high immigration levels and birthrates. Between 1950 and 2015, close to 50 million people immigrated to the United States, accounting for nearly half of the developed world's net immigration over that time period. These immigrants and their descendants made up most of the United States' population growth over those decades. But U.S. fertility is also unusually high for an affluent society. Apart from a temporary dip during and immediately after the Vietnam War, the United States' birthrates after World War II have consistently exceeded the developed-country average. Between the mid-1980s and the financial crisis of 2008, the United States was the only rich country with replacement-level fertility. Assuming continued levels of immigration and near-replacement fertility, most demographers project that by 2040, the United States will have a population of around 380 million. It will have a younger population than almost any other rich democracy, and its working-age population will still be expanding. And unlike the rest of the developed world in 2040, it will still have more births than deaths.

Yet the United States' demographic advantage is not merely a function of numbers. For over a century, the United States has benefited from a large and growing cadre of highly skilled workers. Research by the economists Robert Barro and Jong-Wha Lee on educational attainment suggests that between 1870 and 2010, Americans were the world's most highly educated people in terms of average years of schooling for the working-age population. In 2015, by their estimate, 56 million men and women in the United States aged 25 to 64 had undergraduate degrees or graduate degrees: twice as many as in China and almost one-sixth of the global total. The United States leads the world in research and development, as measured by international patent applications and scientific publications, and in wealth generation, with Americans having accumulated more private wealth since 2000 than the Chinese have in recorded history.

THE TASK AHEAD

Despite these advantages, all is not well for the United States. Warning lights are flashing for a number of key demographic metrics. In 2014, U.S. life expectancy began slowly but steadily dropping for the first time in a century. This drop is partly due to the surge in so-called deaths of despair (deaths from suicide, a drug overdose, or complications from alcoholism), especially in economically depressed regions of the country. Yet even before the decline began, U.S. progress in public health indicators had been painfully slow and astonishingly expensive. Improvements in educational attainment have also been stalled for decades: as of 2010, American adults born in the early 1980s had, on average, 13.7 years of schooling, only fractionally higher than the average of 13.5 years for their parents' generation, born in the early 1950s. Meanwhile, employment rates for American men of prime working age (25–54) are at levels not seen since the Great Depression.

Further, it is possible that consensus projections for U.S. population growth are too optimistic. Such projections generally assume that U.S. fertility will return to replacement levels. But U.S. fertility fell by about ten percent after 2008 and shows no sign of recovering. According to the Centers for Disease Control and Prevention, in 2017, the United States' TFR stood at 1.77, the lowest level since the 1970s and below those of European countries such as France and Sweden. Most demographic projections also assume that the United States will maintain net immigration at its current level of roughly one million per year. But immigration is an intrinsically political phenomenon. In the past, the United States has decided to all but shut off immigration in response to domestic turbulence, and it may do so again.

Even with these troubling signs of decline, no rival is likely to overtake the United States in terms of raw human potential anytime soon. China and India, for instance, may have more college-educated workers than the United States does by 2040, but the superior quality of U.S. higher education will weigh heavily in the United States' favor, and the United States will almost certainly still have the world's largest pool of workers with graduate degrees. If U.S. demographic and human resource indicators continue to stagnate or regress, however, Americans may lose their appetite for playing a leading role in international affairs. Isolationism and populism could thrive, and the U.S. electorate could be unwilling to bear the considerable costs of maintaining the international order. There is also a nontrivial risk that the United States' relatively disappointing trends in health and education will harm its long-term economic performance.

To avoid these outcomes, the United States will need to revitalize its human resource base and restore its dynamism in business, health, and education. Doing so will be immensely difficult—a far-reaching undertaking that is beyond the powers of the federal government alone. The first step, however, is for Americans of all political persuasions to recognize the urgency of the task.

AGING ALLIES

Even as they try to put U.S. demographic trends back on track, American policymakers should also begin considering what U.S. strategy should look like in a world in which demographic advantages no longer guarantee U.S. hegemony. One appealing solution would be to rely more on traditional U.S. partners. Japan's GDP is nearly four times as large as Russia's on an exchange-rate basis, and although its total population is slightly smaller than Russia's, it has a larger cadre of highly skilled workers. The current population of the EU is around 512 million, nearly 200 million more than that of the United States, and its economy is still substantially larger than China's on an exchange-rate basis.

The trouble is that many of Washington's traditional allies face even more daunting demographic challenges than does the United States. The EU member states and Japan, for instance, all have healthy, well-educated, and highly productive populations. Yet the EU and Japan have both registered sub-replacement fertility rates since the 1970s, and their fertility rates began to drop far below the replacement level in the 1980s. In both the EU and Japan, deaths now outnumber births. Their working-age populations are in long-term decline, and their overall populations are aging at rates that would have sounded like science fiction not so long ago. The main demographic difference between the EU and Japan is that Europe has embraced immigration and Japan has not.

Both approaches have their drawbacks. For EU members, immigration has postponed the shrinking of their work forces and slowed the aging of their populations. Yet the EU's record of integrating newcomers, particularly Muslims from poorer countries, is uneven at best, and cultural conflicts over immigration are roiling politics across the continent. Japan has avoided these convulsions, but at the cost of rapid and irreversible population decline. As in China, this is leading to an implosion of the traditional Japanese family. Japanese demographers project that a woman born in Japan in 1990 has close to a 40 percent chance of having no children of her own and a 50 percent chance of never having grandchildren. Japan is not just graying: it is becoming a country of elderly social isolates, with rising needs and decreasing family support.

Population decline does not preclude improvements in living standards, but it is a drag on relative economic and military power. According to the U.S. Census Bureau, the United States' working-age population is set to grow by about ten percent between 2015 and

2040. Over the same period, Germany's and South Korea's working-age populations are expected to shrink by 20 percent, and Japan's, by 22 percent. The number of young men aged 15 to 24, the group from which military manpower is typically drawn, is projected to increase over that period by three percent in the United States but to fall by 23 percent in Germany, 25 percent in Japan, and almost 40 percent in South Korea.

This decline, combined with the budgetary politics of the modern welfare state—borrowing money from future generations to pay for the current benefits of older voters—means that most U.S. treaty allies will become less willing and able to provide for their own defense over the coming decades. The United States, in other words, will become ever more valuable to its aging security partners at the same time as they become less valuable to Washington—all while the United States' own demographic advantage is beginning to erode.

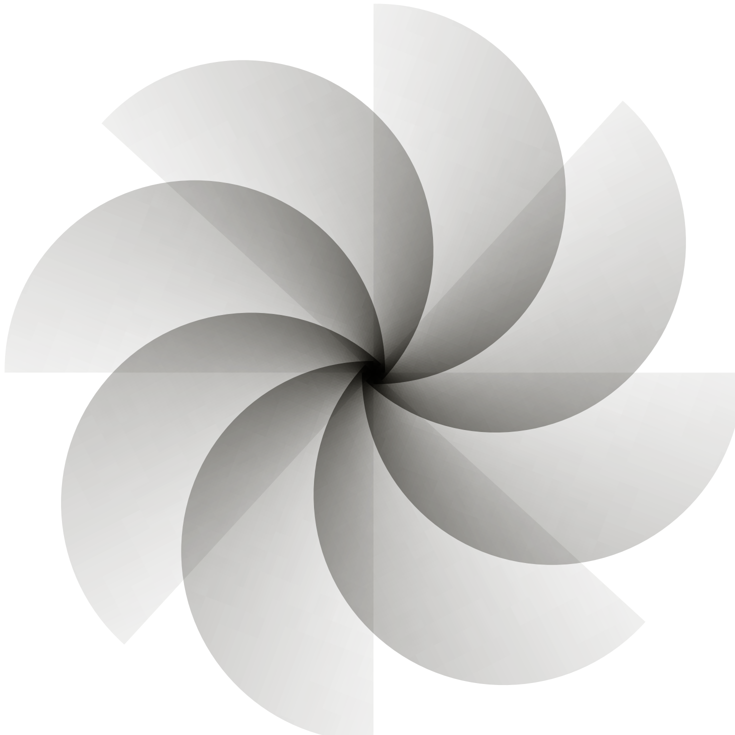
MAKING NEW FRIENDS

Yet even as population trends sap the strength of traditional powers in Europe and East Asia, they are propelling a whole new set of countries, many of them potential U.S. allies and partners, toward great-power status. By courting these rising powers, U.S. policymakers can strengthen the international order for decades to come.

Washington should begin by turning its attention to South and Southeast Asia. As Japan and South Korea lose population, for instance, emerging democracies such as Indonesia and the Philippines will continue to grow. By 2040, Indonesia could have a population of over 300 million, up from around 260 million today, and the Philippines' population could reach 140 million—which would be possibly larger than Russia's. Both countries, moreover, are young and increasingly well educated. In 2015, China had almost four times as many people aged 20 to 39 as Indonesia and the Philippines did combined; by 2040, it is projected to have only twice as many. Both Indonesia and the Philippines are likely to come into increasing confrontation with an expansionist China, and as they do, they may discover an interest in deeper security cooperation with the United States.

Indonesia and the Philippines, however, pale in comparison to India. India is on track to overtake China as the world's most populous country within the next decade, and by 2040, India's working-age population may exceed China's by 200 million. India's population will still be growing in 2040, when China's will be in rapid decline. By that time, about 24 percent of China's population will be over 65, compared with around 12 percent of India's. India has its own demographic and human resource problems—compared with China, it still has poor public health indicators, low average educational attainment, and egregiously high levels of illiteracy. Despite years of attempted reforms, India still ranks 130th out of 186 countries on the Heritage Foundation's Index of Economic Freedom. Yet by 2040, India may have a larger pool of highly educated workers aged 20 to 49 than China, and its advantage will be increasing with every year. The United States and India have already begun defense cooperation in the interest of countering China; American leaders should make it a priority to deepen this partnership in the years ahead.

The United States today has many advantages over its international rivals, thanks in no small part to its favorable demographics. Yet U.S. power cannot be taken for granted. It would be a geopolitical tragedy if the postwar economic and security order that the United States built really were to fade from the scene: no alternative arrangement is likely to promise as much freedom and prosperity to as many people as the U.S.-led international order does today. Thankfully, it is a tragedy that can be averted. If the United States can begin to repair its human capital base and forge new alliances for the twenty-first century, it can strengthen—with the aid of demographics—Pax Americana for generations to come.



DISRUPTION

War Is Not Over

What the Optimists Get Wrong About Conflict

Tanisha M. Fazal and Paul Poast

NOVEMBER/DECEMBER 2019

The political turmoil of recent years has largely disabused us of the notion that the world has reached some sort of utopian "end of history." And yet it can still seem that ours is an unprecedented era of peace and progress. On the whole, humans today are living safer and more prosperous lives than their ancestors did. They suffer less cruelty and arbitrary violence. Above all, they seem far less likely to go to war. The incidence of war has been decreasing steadily, a growing consensus holds, with war between great powers becoming all but unthinkable and all types of war becoming more and more rare.

This optimistic narrative has influential backers in academia and politics. At the start of this decade, the Harvard psychologist Steven Pinker devoted a voluminous book, *The Better Angels of Our Nature*, to the decrease of war and violence in modern times. Statistic after statistic pointed to the same conclusion: looked at from a high enough vantage point, violence is in decline after centuries of carnage, reshaping every aspect of our lives "from the waging of wars to the spanking of children."

Pinker is not alone. "Our international order," U.S. President Barack Obama told the United Nations in 2016, "has been so successful that we take it as a given that great powers no longer fight world

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wars, that the end of the Cold War lifted the shadow of nuclear Armageddon, that the battlefields of Europe have been replaced by peaceful union." At the time of this writing, even the Syrian civil war is winding down. There have been talks to end the nearly two decades of war in Afghanistan. A landmark prisoner swap between Russia and Ukraine has revived hopes of a peace agreement between the two. The better angels of our nature seem to be winning.

If this sounds too good to be true, it probably is. Such optimism is built on shaky foundations. The idea that humanity is past the era of war is based on flawed measures of war and peace; if anything, the right indicators point to the worrying opposite conclusion. And the anarchic nature of international politics means that the possibility of another major conflagration is ever present.

BODY COUNTS

The notion that war is in terminal decline is based, at its core, on two insights. First, far fewer people die in battle nowadays than in the past, both in absolute terms and as a percentage of the world population. Experts at the Peace Research Institute Oslo pointed this out in 2005, but it was Pinker who introduced the point to a wider audience in his 2011 book. Reviewing centuries of statistics on war fatalities, he argued that not only is war between states on the decline; so are civil wars, genocides, and terrorism. He attributes this fall to the rise of democracy, trade, and a general belief that war has become illegitimate.

Then there is the fact that there has not been a world war since 1945. "The world is now in the endgame of a five-century-long trajectory toward permanent peace and prosperity," the political scientist Michael Mousseau wrote in an article in *International Security* earlier this year. The political scientist Joshua Goldstein and the legal scholars Oona Hathaway and Scott Shapiro have also argued as much, tying the decline of interstate war and conquest to the expansion of market economies, the advent of peacekeeping, and international agreements outlawing wars of aggression.

Taken together, these two points—fewer and fewer battle deaths and no more continent-spanning wars—form a picture of a world increasingly at peace. Unfortunately, both rest on faulty statistics and distort our understanding of what counts as war.

To begin with, relying on body counts to determine if armed conflict is decreasing is highly problematic. Dramatic improvements in military medicine have lowered the risk of dying in battle by leaps and bounds, even in high-intensity fighting. For centuries, the ratio of those wounded to those killed in battle held steady at three to one; the wounded-to-killed ratio for the U.S. military today is closer to ten to one. Many other militaries have seen similar increases, meaning that today's soldiers are far more likely to wind up injured than dead. That historical trend undermines the validity of most existing counts of war and, by extension, belies the argument that war has become a rare occurrence. Although reliable statistics on the war wounded for all countries at war are hard to come by, our best projections cut by half the decline in war casualties that Pinker has posited. What's more, to focus only on the dead means ignoring war's massive costs both for the wounded themselves and for the societies that have to care for them.

Consider one of the most widely used databases of armed conflict: that of the Correlates of War project. Since its founding in the 1960s, COW has required that to be considered a war, a conflict must generate a minimum of 1,000 battle-related fatalities among all the organized armed actors involved. Over the two centuries of war that COW covers, however, medical advances have drastically changed who lives and who dies in battle. Paintings of wounded military personnel being carried away on stretchers have given way to photographs of medevac helicopters that can transfer the wounded to a medical facility in under one hour—the "golden hour," when the chances of survival are the highest. Once the wounded are on the operating table, antibiotics, antiseptics, blood typing, and the ability to transfuse patients all make surgeries far more likely to be successful today. Personal protective equipment has evolved, too. In the early nineteenth century, soldiers wore dress uniforms that were often cumbersome without affording any protection against gunshots or artillery. World War I saw the first proper helmets; flak jackets became common in the Vietnam War. Today, soldiers wear helmets that act as shields and radio sets in one. Over the course of the wars in Afghanistan and Iraq alone, medical improvements have decreased the number of deaths from improvised explosive devices and small-arms fire. As a result of these changes, many contemporary wars listed in COW's database appear less intense. Some might not make it past COW's fatality threshold and would therefore be excluded.

Better sanitation has left its mark, too, especially improvements in cleanliness, food distribution, and water purification. During the American Civil War, physicians often failed to wash their hands and instruments between patients. Today's doctors know about germs and proper hygiene. A six-week campaign during the Spanish-American War of 1898 led to just 293 casualties, fatal and nonfatal, from fighting but a staggering 3,681 from various illnesses. This was no outlier. In the Russo-Turkish War of 1877–78, nearly 80 percent of the deaths were caused by disease. Because counting and categorizing casualties in a war is notoriously difficult, these statistics should be taken with a grain of salt, but they illustrate a broader point: as sanitation has improved, so has the survivability of war. The health of soldiers also skews battle deaths, since ill soldiers are more likely to die in battle than healthier soldiers. And military units fighting at their full complement will have higher survival rates than those decimated by disease.

Moreover, some of the advances that have made modern war less deadly, although no less violent, are more reversible than they seem. Many depend on the ability to quickly fly the wounded to a hospital. For the U.S. military, doing so was possible in the asymmetric conflicts against insurgents in Afghanistan and Iraq, where the United States had almost total control of the skies. In a great-power war, however, airpower would be distributed much more equally, limiting both sides' ability to evacuate their wounded via air. Even a conflict between the United States and North Korea would severely test U.S. medevac capabilities, shifting more casualties from the "nonfatal" to the "fatal" column. And a great-power war could involve chemical, biological, radiological, or nuclear weapons, which have been used so rarely that there are no good medical models for treating their victims.

Skeptics may point out that most wars since World War II have been civil wars, whose parties might not actually have had access to sophisticated medical facilities and procedures—meaning that the decline in casualties is more real than artifice. Although this is true for many rebel groups, civil wars also typically involve state militaries, which do invest in modern military medicine. And the proliferation of aid and development organizations since 1945 has made many of these advances available, at least to some extent, to civilian populations and insurgents. A foundational principle of humanitarian organizations such as the International Committee of the Red Cross is impartiality, meaning that they do not discriminate between civilians and combatants in giving aid. In addition, rebel groups often have external supporters who provide them with casualty-reducing equipment. (The United Kingdom, for example, shipped body armor to the insurgent Free Syrian Army at the start of the Syrian civil war.) As a result, even databases that include civil wars and use a much lower fatality threshold than COW, such as the widely referenced database of the Uppsala Conflict Data Program, may end up giving the erroneous impression that civil wars have become less prevalent when in fact they have become less lethal.

Collecting exact data on the injured in civil wars is admittedly difficult. As a recent report by the nongovernmental organization Action on Armed Violence argues, fewer resources for journalists and increased attacks on aid workers mean that those most likely to report on the wounded are less able to do so today than in the past, leading to a likely undercounting. Dubious statistics thus come out of conflicts such as the Syrian civil war, with media reports suggesting a wounded-to-killed ratio of nearly one to one since 2011. But common sense suggests that the real number of injuries is far higher.

If one ignores these trends and takes the existing databases at face value, the picture is still far from rosy. The tracker managed by the Uppsala Conflict Data Program shows that even according to existing databases that may undercount conflict, the number of active armed conflicts has been ticking up in recent years, and in 2016, it reached its highest point since the end of World War II. And many of today's conflicts are lasting longer than past conflicts did. Recent spikes of violence in the Democratic Republic of the Congo, Mexico, and Yemen show few signs of abating.

To be sure, the decline of battle deaths, when considered on its own, is a major victory for human welfare. But that achievement is reversible. As the political scientist Bear Braumoeller pointed out in his book *Only the Dead*, the wars of recent decades may have remained relatively small in size, but there is little reason to expect that trend to continue indefinitely. One need only recall that in the years preceding World War I, Europe was presumed to be in a "long peace." Neither brief flashes of hostility between European powers, such as the standoff between French and German forces in Morocco in 1911, nor the Balkan Wars of 1912 and 1913 could dispel this notion. Yet these small conflicts turned out to be harbingers of a much more devastating conflagration.

Today, the long shadow of nuclear weapons ostensibly keeps that scenario from repeating. Humanity has stockpiles of nuclear warheads that could wipe out billions of lives, and that terrifying fact, many argue, has kept great-power clashes from boiling over into all-out wars. But the idea that military technology has so altered the dynamics of conflict as to make war inconceivable is not new. In the 1899 book *Is War Now Impossible?*, the Polish financier and military theorist Jan Gotlib Bloch posited that "the improved deadliness of weapons" meant that "before long you will see they will never fight at all." And in 1938—just a year before Hitler invaded Poland, and several years before nuclear technology was considered feasible—the American peace advocate Lola Maverick Lloyd warned that "the new miracles of science and technology enable us at last to bring our world some measure of unity; if our generation does not use them for construction, they will be misused to destroy it and all its slowly-won civilization of the past in a new and terrible warfare."

It may be that nuclear weapons truly have more deterrent potential than past military innovations—and yet these weapons have introduced new ways that states could stumble into a cataclysmic conflict. The United States, for example, keeps its missiles on a "launch on warning" status, meaning that it would launch its missiles on receiving word that an enemy nuclear attack was in progress. That approach is certainly safer than a policy of preemption (whereby the mere belief that an adversary's strike was imminent would be enough to trigger a U.S. strike). But by keeping nuclear weapons ready to use at a moment's notice, the current policy still creates the possibility of an accidental launch, perhaps driven by human error or a technical malfunction.

SMALL GREAT WARS

All in all, recent history does not point to a decline of war at large. But what about war between great powers? The historian John Lewis Gaddis famously referred to the post-1945 era as "the long peace." Deterred by nuclear weapons and locked into a global network of international institutions, great powers have avoided a repeat of the carnage of the two world wars. When the European Union was awarded the Nobel Peace Prize in 2012, it was in part for this remarkable achievement.

There has, indeed, not been a World War III. But that does not necessarily mean the age of great-power peace is here. In truth, the last century's world wars are a poor yardstick, as they bore little resemblance to most of the great-power wars that preceded them. The 1859 Franco-Austrian War lasted less than three months; the 1866 Austro-Prussian War was a little over one month long. Each produced fewer than 50,000 battle deaths. Even the 1870–71 Franco-Prussian War, which paved the way for a unified German empire, lasted just six months and resulted in about 200,000 battle deaths. The world wars were orders of magnitude different from those conflicts. World War I was over four years long and produced some nine million battle deaths. World War II lasted six years and led to over 16 million battle deaths.

In other words, World War I and II have severely skewed our sense of what war is. Scholars and policymakers tend to view these conflicts as emblematic of war. They are not. Most wars are relatively short, lasting less than six months. They tend to result in 50 or fewer battle deaths per day—a number that pales in comparison to the figures produced during World War I (over 5,000 dead per day) and World War II (over 7,000 per day). In fact, if one excludes these two outliers, the rates of battle deaths from the mid-nineteenth century until 1914 are consistent with those in the decades since 1945.

There have, in fact, been a number of great-power wars since 1945. But they are rarely recognized as such because they did not look like the two world wars. They include the Korean War, in which the United States faced off against forces from China and the Soviet Union, and the Vietnam War, which also pitted the United States against Chinese forces. In both cases, major powers fought each other directly.

The list of recent great-power conflicts grows much longer if one includes instances of proxy warfare. From U.S. support for the mujahideen fighting Soviet forces in Afghanistan during the Cold War to the foreign rivalries playing out in Syria and Ukraine, major powers regularly fight one another using the military labor of others. Outsourcing manpower like this is no recent invention and is in fact a relatively normal feature of great-power war. Consider Napoleon's march to Russia in 1812. The invasion is famous for the attrition suffered by the Grande Armée as it pushed east. Far less known is that despite its immense size of over 400,000 men, the force was largely not French. Foreign fighters, be they mercenaries or recruits from conquered territories, made up the overall majority of the troops that set off to invade Russia. (Many of them soon tired of marching in the summer heat and abandoned the coalition, shrinking Napoleon's forces by more than half before he was yet one-quarter of the way through the campaign.) Still, his reliance on foreign troops allowed Napoleon to place the burden of the fighting on non-French, and he reportedly told the Austrian statesman Klemens von Metternich that "the French cannot complain of me; to spare them, I have sacrificed the Germans and the Poles."

Put simply, most violent conflicts, even among great powers, do not look like World War I or II. This is not at all to diminish the importance of those two wars. Understanding how they happened can help avoid future wars or at least limit their scale. But to determine if great-power war is in decline requires a clear conceptual understanding of what such a war is: one that recognizes that World War I and II were unparalleled in scale and scope but not the last instances of great-power conflict—far from it. The behavior of states has not necessarily improved. In truth, the apparent decline in the deadliness of war masks a great deal of belligerent behavior.

DON'T CELEBRATE TOO EARLY

The idea that war is increasingly a thing of the past is not just mistaken; it also enables a harmful brand of triumphalism. War's ostensible decline does not mean that peace is breaking out. Certainly, the citizens of El Salvador, Guatemala, Honduras, and Venezuela would object to the notion that their countries are peaceful, even though none is technically at war. As the sociologist Johan Galtung has argued, true peace, or "positive peace," must also contain elements of active engagement and cooperation, and although globalization since the end of the Cold War has linked disparate communities together, there have also been setbacks. Following the collapse of the Berlin Wall, there were fewer than ten border walls in the world. Today, there are over 70, from the fortified U.S.-Mexican border to the fences separating Hungary and Serbia and those between Botswana and Zimbabwe.

Even when ongoing wars do come to an end, caution is warranted. Consider civil wars, many of which now end in peace treaties. Some, such as the 2016 Colombian peace deal, are elaborate and ambitious documents that run over 300 pages long and go far beyond standard disarmament processes to address land reform, drug policy, and women's rights. And yet civil wars that end with peace agreements tend to sink back into armed conflict sooner than those that end without them. Often, what looks to the international community as an orderly end to a conflict is just a means for the warring parties to retrench and regroup before fighting breaks out anew.

Likewise, it strains credulity that the better angels of our nature are winning when humanity is armed to the teeth. Global military expenditures are higher today than during the late Cold War era, even when adjusted for inflation. Given that countries haven't laid down their arms, it may well be that today's states are neither more civilized nor inherently peaceful but simply exercising effective deterrence. That raises the same specter as the existence of nuclear weapons: deterrence may hold, but there is a real possibility that it will fail.

FEAR IS GOOD

The greatest danger, however, lies not in a misplaced sense of progress but in complacency—what U.S. Supreme Court Justice Ruth Bader Ginsburg, in a different context, called "throwing away your umbrella in a rainstorm because you are not getting wet." At a time of U.S.-Russian proxy wars in Syria and Ukraine, rising tensions between the United States and Iran, and an increasingly assertive China, underestimating the risk of future war could lead to fatal mistakes. New technologies, such as unmanned drones and cyberweapons, heighten this danger, as there is no consensus around how states should respond to their use.

Above all, overconfidence about the decline of war may lead states to underestimate how dangerously and quickly any clashes can escalate, with potentially disastrous consequences. It would not be the first time: the European powers that started World War I all set out to wage limited preventive wars, only to be locked into a regional conflagration. In fact, as the historian A. J. P. Taylor observed, "every war between Great Powers . . . started as a preventive war, not a war of conquest."

A false sense of security could lead today's leaders to repeat those mistakes. That danger is all the more present in an era of populist leaders who disregard expert advice from diplomats, intelligence communities, and scholars in favor of sound bites. The gutting of the U.S. State Department under President Donald Trump and Trump's dismissive attitude toward the U.S. intelligence community are but two examples of a larger global trend. The long-term consequences of such behavior are likely to be profound. Repeated enough, the claim that war is in decline could become a self-defeating prophecy, as political leaders engage in bombastic rhetoric, military spectacles, and counterproductive wall building in ways that increase the risk of war.

Trump's Assault on the Global Trading System

And Why Decoupling From China Will Change Everything

Chad P. Bown and Douglas A. Irwin

SEPTEMBER/OCTOBER 2019

Donald Trump has been true to his word. After excoriating free trade while campaigning for the U.S. presidency, he has made economic nationalism a centerpiece of his agenda in office. His administration has pulled out of some trade deals, including the Trans-Pacific Partnership (TPP), and renegotiated others, including the North American Free Trade Agreement (NAFTA) and the U.S.-Korea Free Trade Agreement. Many of Trump's actions, such as the tariffs he has imposed on steel and aluminum, amount to overt protectionism and have hurt the U.S. economy. Others have had less obvious, but no less damaging, effects. By flouting international trade rules, the administration has diminished the country's standing in the world and led other governments to consider using the same tools to limit trade arbitrarily. It has taken deliberate steps to weaken the World Trade Organization (WTO)—some of which will permanently damage the multilateral trading system. And in its boldest move, it is trying to use trade policy to decouple the U.S. and Chinese economies.

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A future U.S. administration that wants to chart a more traditional course on trade will be able to undo some of the damage and start repairing the United States' tattered reputation as a reliable trading partner. In some respects, however, there will be no going back. The Trump administration's attacks on the WTO and the expansive legal rationalizations it has given for many of its protectionist actions threaten to pull apart the unified global trading system. And on China, it has become clear that the administration is bent on severing, not fixing, the relationship. The separation of the world's two largest economies would trigger a global realignment. Other countries would be forced to choose between rival trade blocs. Even if Trump loses reelection in 2020, global trade will never be the same.

BATTLE LINES

The first two years of the Trump administration featured pitched battles between the so-called globalists (represented by Gary Cohn, then the director of the National Economic Council) and the nationalists (represented by the Trump advisers Steve Bannon and Peter Navarro). The president was instinctively a nationalist, but the globalists hoped to contain his impulses and encourage his attention-seeking need to strike flashy deals. They managed to slow the rollout of some new tariffs and prevent Trump from precipitously withdrawing from trade agreements.

But by mid-2018, the leading globalists had left the administration, and the nationalists—the president among them—were in command. Trump has a highly distorted view of international trade and international negotiations. Viewing trade as a zero-sum, win-lose game, he stresses one-time deals over ongoing relationships, enjoys the leverage created by tariffs, and relies on brinkmanship, escalation, and public threats over diplomacy. The president has made clear that he likes tariffs ("trade wars are good, and easy to win") and that he wants more of them ("I am a Tariff Man").

Although the thrust of U.S. policy over the past 70 years has been to pursue agreements to open up trade and reduce barriers, every president has for political purposes used protectionist measures to help certain industries. President Ronald Reagan, for example, capped imports to protect the automotive and steel industries during what was then the worst U.S. recession since the Great Depression. Trump, however, has enjoyed a period of strong economic growth, low unemployment, and a virtual absence of protectionist pressure from industry or labor. And yet his administration has imposed more tariffs than most of its predecessors.

Take steel. Although there is nothing unusual about steel (along with aluminum) receiving government protection—the industry maintains a permanent presence in Washington and has been an on-again, off-again beneficiary of trade restrictions since the Johnson administration—the scope of the protection provided and the manner in which the Trump administration gave it last year were unusual. In order to avoid administrative review by independent agencies such as the nonpartisan, quasi-judicial U.S. International Trade Commission, the White House dusted off Section 232 of the Trade Expansion Act of 1962. This Cold War statute gives the president the authority to impose restrictions on imports if the Commerce Department finds that they threaten to harm a domestic industry the government deems vital to national security.

The Trump administration's national security case was weak. More than 70 percent of the steel consumed in the United States was produced domestically, the imported share was stable, and there was no threat of a surge. Most imports came from Canada, Germany, Japan, Mexico, and other allies, with only a small fraction coming from China and Russia, thanks to antidumping duties already in place on those countries. The number of jobs in the U.S. steel industry had been shrinking, but this was due more to advances in technology than falling production or imports. In the 1980s, for example, it took ten man-hours to produce a ton of steel; today, it takes just over one man-hour. Even the Defense Department was skeptical about the national security motivation.

Prior administrations refrained from invoking the national security rationale for fear that it could become an unchecked protectionist loophole and that other countries would abuse it. In a sign that those fears may come true, the Trump administration recently stood alongside Russia to argue that merely invoking national security is enough to defeat any WTO challenge to a trade barrier. This runs counter to 75 years of practice, as well as to what U.S. negotiators argued when they created the global trading system in the 1940s.

The Trump administration dismissed all those concerns. The president and leading officials desperately wanted to help the steel and aluminum industries. (It did not hurt that Wilbur Ross, the commerce secretary, and Robert Lighthizer, the U.S. trade representative, both used to work for the steel industry.) The administration also believed that its willingness to impose economic self-harm in the form of higher steel and aluminum prices for domestic manufacturers would send a strong signal to other countries about its commitment to economic nationalism.

Trump also went so far as to impose tariffs on steel and aluminum imports from Canada, something that even the domestic industry and labor unions opposed. Over the last 30 years, the U.S. steel and aluminum industries had transformed to become North American industries, with raw steel and aluminum flowing freely back and forth between Canadian and U.S. plants. The same union represents workers on both sides of the border. In addition to lacking an economic rationale, targeting Canada alienated a key ally and seemed to make no political sense, either.

The administration also miscalculated the foreign blowback against the tariffs. "I don't believe there's any country in the world that will retaliate for the simple reason that we are the biggest and most lucrative market in the world," Navarro, the president's hawkish trade adviser, told Fox News in 2018, apparently unaware that other countries have trade hawks, too. Canada, China, Mexico, the European Union, and others all hit back hard, largely by slapping tariffs on U.S. agricultural exports. In effect, the administration jeopardized the welfare of 3.2 million American farmers to help 140,000 U.S. steel workers, a remarkable move given Trump's electoral reliance on Midwestern farm states.

If the aim was to fire a shot across the bow of U.S. trading partners, the tariffs worked. Foreign governments were suddenly on alert that the United States was willing to abandon the established norms of trade policy. The White House has insisted that "economic security is national security." Yet defining security so broadly opens the door to unrestricted protectionism. And so when, in mid-2018, the Trump administration made yet another national security case for tariffs, this time on automobiles—imports of which dwarf those of steel and aluminum combined by a factor of seven—the fear abroad reached a new level. Although the administration recently announced that it was delaying any new auto tariffs, the threat remains. The consequences of imposing such a large tax on a major household item, in the sure knowledge that there would be swift and heavy foreign retaliation, may be staying the administration's hand.

The president's enthusiasm for tariff threats has even spilled over to issues beyond trade. In May, Trump suddenly demanded that Mexico stop the flow of immigrants into the United States or risk facing new, across-the-board tariffs of 25 percent. As long as Trump is in office, no country—even one that has just negotiated a trade agreement with the United States—can be confident that it won't be a target.

POINTLESS RENEGOTIATIONS

On the 2016 campaign trail, Trump complained that NAFTA was "the worst trade deal ever," a theme he has continued in office. His advisers talked him out of simply withdrawing from the agreement, but Trump insisted on renegotiating it and proceeded to make the renegotiation process needlessly contentious. The administration made odd demands of Canada and Mexico, including that the deal should result in balanced trade and include a sunset clause that could terminate the agreement after five years, thus eliminating the benefits of reduced uncertainty.

The three countries finally reached a new agreement last September. Unimaginatively called the United States–Mexico–Canada Agreement (USMCA), it is hardly a major rewrite of NAFTA. It preserves NAFTA's requirement of duty-free access, would slightly open up Canadian dairy markets to U.S. farmers, and incorporates a host of new provisions from the TPP.

The renegotiation was in some ways an unnecessary exercise. NAFTA was a sound agreement—no one in the administration could identify what made it such a terrible deal—and many of its shortcomings had been fixed in the TPP, from which Trump withdrew the United States in 2017. But the contrast between the hostile rhetoric Trump heaped on NAFTA and the soft reality of the USMCA illuminates the president's approach to trade. Trump just doesn't like certain outcomes, including trade deficits and the loss of certain industries. But instead of addressing their underlying causes, which have little to do with specific trade agreements, he opts for managed trade, substituting government intervention for market forces, or new rules—a requirement that a greater proportion of a vehicle be made in the United States for it to enter Mexico duty free, for example—that try to force his preferred outcome. The goal is not to free up trade further but to constrain trade according to Trump's whims.

The USMCA is currently stalled in Congress, partly because the administration did not cultivate congressional support for the renegotiation in the first place. But if the USMCA ultimately dies, neither

Canada nor Mexico will miss it. Both felt the need to sign the deal simply to get past the uncertainty created by Trump's threats to withdraw from NAFTA, as well as to forestall the chance that he would impose auto tariffs.

Both Japan and the EU also begrudgingly signed up for trade talks with the administration, in large part to delay Trump's auto tariffs for as long as possible. Of the two, Japan is more likely to agree to a deal—after all, it negotiated a trade agreement with the Obama administration as part of the TPP. The Europeans are less likely to do so, not only due to conflicts over agriculture but also because of Trump's unpopularity across Europe. But the Europeans hope that by agreeing to talk, they can put off Trump's auto tariffs and perhaps run out the clock on the administration.

YOU'RE GONNA MISS ME WHEN I'M GONE

Acts of protectionism are acts of self-harm. But the Trump administration is also doing broader, and more permanent damage to the rules-based trading system. That system emerged from the ashes of the trade wars of the 1930s, when protectionism and economic depression fueled the rise of fascism and foreign governments made deals that cut U.S. commercial interests out of the world's leading markets. In 1947, the United States responded by leading the negotiations to create the WTO's predecessor, the General Agreement on Tariffs and Trade, which limited arbitrary government interference in trade and provided rules to manage trade conflicts. Under this system, trade barriers have gradually fallen, and growing trade has contributed to global economic prosperity.

The United States once led by example. No longer. Trump has threatened to leave the WTO, something his previous actions suggest is more than idle talk. He says the agreement is rigged against the United States. The administration denounces the WTO when the organization finds U.S. practices in violation of trade rules but largely ignores the equally many cases that it wins. Although the WTO's dispute-settlement system needs reform, it has worked well to defuse trade conflict since it was established over two decades ago.

Trump's attacks on the WTO go beyond rhetoric. The administration has blocked appointments to the WTO's Appellate Body, which issues judgments on trade disputes; by December, if nothing changes, there will be too few judges to adjudicate any new cases. When that happens, a dispute-settlement system that countries big and small, rich and poor have relied on to prevent trade skirmishes from turning into trade wars will disappear. This is more than a withdrawal of U.S. leadership. It is the destruction of a system that has worked to keep the trade peace.

That is particularly unwelcome because so much of global trade has nothing to do with the United States. The system resolves conflicts between Colombia and Panama, Taiwan and Indonesia, Australia and the EU. Most disputes are settled without retaliation or escalation. The WTO has created a body of law that ensures more predictability in international commerce. The system it manages works to the benefit of the United States while freeing the country from having to police global commerce single-handedly.

The dispute-settlement system is not perfect. But rather than make constructive proposals for how to improve it, something Canada and others are now doing, the United States has disengaged. The Trump administration may end up destroying the old system without having drafted a blueprint for its successor.

What will come next? In the worst-case scenario, the new world trading system will be dominated by discriminatory trade blocs that raise the costs of commerce, make trade negotiations harder, and encourage retaliation. Size and economic power, not principles or rules, will determine the outcome of trade disputes. Such a system will hurt smaller, weaker countries and could push them to align with more powerful ones for self-preservation. It was precisely that trend in the 1930s that forced the United States to create the postwar trading system. And the lack of adherence to trade rules beginning in the 1970s made the United States press for the creation of a stronger, more effective dispute-settlement system in the 1990s, resulting in the WTO. For Washington to tear down the trading system it created would be a tragedy.

CONSCIOUS DECOUPLING

Nowhere has the Trump administration left a greater mark on U.S. trade policy than with China. In early 2018, it released a lengthy report documenting a litany of concerns with Chinese trade practices. China had been forcing U.S. companies to form joint ventures with local firms to access its 1.4 billion consumers. These arranged marriages then allowed China to acquire U.S. technology. Sometimes companies would hand it over to grease the palms of regulators, sometimes they would license it at below commercially viable rates, and sometimes Chinese firms or spies would steal it. Combined with some of the economic concerns underlying the U.S. steel and aluminum tariffs—China's industrial subsidies, state-owned enterprises, overcapacity, and failure to more fully transform into a market economy—the list of U.S. grievances created a recipe for confrontation. The result was tariffs, and countertariffs, on $360 billion worth of trade between the two countries, an unprecedented figure.

Many observers assumed that the Trump administration simply wanted to get a better deal from China. But what constituted a better deal was always vague. If the primary concern was the bilateral trade deficit, China could be pressured to go on a massive spending spree, buying up U.S. soybeans and energy products. If it was intellectual property theft, China might be persuaded to change a few laws and commit to international norms.

It has become clear, however, that the administration does not want a permanent deal, or at least any deal with an explicit path forward that the Chinese government might accept. Even if Trump and Chinese President Xi Jinping come to some superficial agreement, it is unlikely to be more than a temporary truce in what is now a permanent trade war. The administration's goal seems to be nothing less than the immediate and complete transformation of the Chinese economy or bust—with bust the most likely outcome. To satisfy the United States, China would have to end forced technology transfers, stop stealing intellectual property, curtail subsidies to state-owned enterprises, abandon industrial policies designed to gain technological dominance, stop harassing foreign firms operating in China, and begin to open markets that the government deliberately closed to give control to domestic firms. In other words, the United States wants China to turn its state-dominated economic system into a market-based one overnight.

Such a change would perhaps be in China's best interest, but economic regime change is quite an ask for one country to make of another. The Communist Party leadership keeps its lock on power by maintaining control over all facets of the Chinese economy. Losing that control would jeopardize its grip on political power. No one seriously expects China's leaders to cede control of the economy simply because of U.S. threats.

The Trump administration may not even expect them to; it may have been asking all along for something that it knew China could not deliver. If so, the objective was never a comprehensive deal; it was the tariffs themselves. For one thing, if the administration had been serious about getting a deal from China, it would have maximized its leverage by bringing along Japan and the EU, both of which have similar economic concerns. Indeed, Japan and the EU have made considerable efforts to work with the administration when it comes to China. They have mostly been rebuffed.

There were hints from the beginning that the administration was never searching for a deal that would truly end the trade war. In 2017, Navarro outlined the administration's view that trade with China threatened U.S. national security. He also let slip that he wanted to rip up the supply chains that bound the United States and China together. At the time, some dismissed him as a rogue eccentric. Now, the United States is on the cusp of slapping tariffs on all imports from China—the first step toward Navarro's goal. Geopolitics has trumped economics.

This is not protectionism in the sense of trying to help a domestic industry in its struggle against imports. The goal is much broader and more significant: the economic decoupling of the United States and China. That would mark a historic fragmentation of the world economy. It would represent, in the words of former Treasury Secretary Henry Paulson, the falling of an "economic iron curtain" between the world's two largest economies. Such a separation would have foreign policy and national security implications well beyond the economic consequences.

In some respects, the rupture is already happening. Students and scientists from China are no longer as welcome in the United States as they once were. China's already meager investments in the U.S. economy are now under heightened scrutiny from national security agencies. The administration is tightening up export controls, curtailing how and with whom Americans can share their inventions, especially in cutting-edge areas such as artificial intelligence, advanced computing, and additive manufacturing. That will not stop China from gaining better technology, however; German, Japanese, and South Korean firms will simply fill the void. Going it alone will put the U.S. economy at even more of a disadvantage.

Most traditional supporters of free trade are not so naive as to believe that the United States should tolerate China's bad behavior as long as cheap goods continue to flow into the United States. China, they agree, breaks the rules. But the Trump administration's clumsy unilateral approach is not the right answer. A better response would be to identify specific instances in which China has violated international agreements and then join with trading partners and allies to file cases with the WTO. (This is not as hopeless a tactic as it might sound: China has complied with findings from the WTO surprisingly often.) Where China has not explicitly violated agreements, Washington could still sanction unfair practices, preferably together with other countries so as to exert the maximum pressure possible, but unilaterally if that is the only feasible option.

The final plank of a sensible trade policy would be to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, the revised trade deal struck by the remaining members of the TPP after the U.S. withdrawal. Joining the CPTPP would establish a large zone of trade rules favorable to the United States and unfavorable to China. That would help push China to resume its progress toward economic reform. Historians will look back on Trump's precipitous decision to quit the TPP as a major blunder.

If the Trump administration really does want to separate the U.S. and Chinese economies, the United States will have to pay an economic price. Trump denies that his strategy has costs. China, he says, is paying the tariffs. "I am very happy with over $100 Billion a year in Tariffs filling U.S. coffers," he tweeted in May. This is nonsense: research shows that firms pass on the cost of the tariffs to American consumers. And U.S. exporters—mainly farmers facing the loss of markets due to China's retaliation—are paying the price, as well. So, too, are American taxpayers, now on the hook for tens of billions of dollars needed to bail out the reeling agricultural sector.

Whether Trump appreciates these costs isn't clear, but it's evident that economic considerations aren't driving policy. The president's willingness to look past stock market slumps and continue to push China shows that he is willing to pay an economic price—whatever he says in public. For someone whose reelection depends on maintaining a strong economy, that is a bold gamble.

THE DAMAGE DONE

If Trump becomes a one-term president, the next administration will have an opportunity to reverse many of its predecessor's trade policies—eliminating the steel and aluminum tariffs, repairing relationships with the United States' NAFTA partners, joining the CPTPP, and improving the WTO. That would not only help restore U.S. credibility on the world stage but also enable other countries to lift their retaliatory duties on U.S. exports, helping suffering farmers. If Trump wins reelection and continues down the path of economic nationalism, however, the prospect of continued, and perhaps intensified, trade conflict is likely to destroy the world trading system. That would do incalculable damage to the world economy.

Although many of Trump's policies can be reversed, the tariffs on China are a game changer. Any future administration would have a difficult time removing them without sizable concessions from the Chinese leadership and some way of alleviating the heightened national security fears that now dominate the bilateral relationship. A future Democratic administration may be even more disinclined to change course. Many Democrats opposed the TPP and broadly support the president's anti-China stance. In May, Senate Minority Leader Chuck Schumer, Democrat of New York, tweeted his support for Trump on China, urging him to "Hang tough" and not to cave in to a bad deal. More than a decade ago, Schumer and his Senate colleagues supported slapping even higher tariffs on Chinese goods than the ones Trump has imposed, on the grounds that China was keeping its currency artificially low to boost exports. Concerns over human rights will also push Democrats to confront China. Although China's herding of over a million Muslim Uighurs in western China into concentration camps did not factor into the Trump administration's trade negotiations, it could loom large in those of a future administration.

The system of world trade that the United States helped establish after World War II is often described as multilateral. But it was not a global system; it originally consisted of a small number of Western, market-oriented economies and Japan and excluded the Soviet Union, its eastern European satellites, and other communist countries. That division was about more than politics. Market and nonmarket economies are in many ways incompatible. In a market economy, a firm losing money has to adjust or go bankrupt. Under state capitalism, state-owned firms get subsidies to maintain production and save jobs, forcing non-state-owned firms—at home or abroad—to make the painful adjustment instead. The Trump administration, together with China, as it retreats from pro-market reforms, may be moving the world back to the historic norm of political and economic blocs.

The fall of the Berlin Wall and the collapse of communism opened up eastern Europe and the former Soviet Union to global markets. The reforms of Deng Xiaoping did the same for China. But only in the unipolar moment, which began in 2001, when China joined the WTO, were open markets truly global. Now, the period of global capitalism may be coming to an end. What many thought was the new normal may turn out to have been a brief aberration.

The Starving State

Why Capitalism's Salvation Depends on Taxation

Joseph E. Stiglitz, Todd N. Tucker, and Gabriel Zucman

JANUARY/FEBRUARY 2020

For millennia, markets have not flourished without the help of the state. Without regulations and government support, the nineteenth-century English cloth-makers and Portuguese winemakers whom the economist David Ricardo made famous in his theory of comparative advantage would have never attained the scale necessary to drive international trade. Most economists rightly emphasize the role of the state in providing public goods and correcting market failures, but they often neglect the history of how markets came into being in the first place. The invisible hand of the market depended on the heavier hand of the state.

The state requires something simple to perform its multiple roles: revenue. It takes money to build roads and ports, to provide education for the young and health care for the sick, to finance the basic research that is the wellspring of all progress, and to staff the bureaucracies that keep societies and economies in motion. No successful market can survive without the underpinnings of a strong, functioning state.

That simple truth is being forgotten today. In the United States, total tax revenues paid to all levels of government shrank by close to

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four percent of national income over the last two decades, from about 32 percent in 1999 to approximately 28 percent today, a decline unique in modern history among wealthy nations. The direct consequences of this shift are clear: crumbling infrastructure, a slowing pace of innovation, a diminishing rate of growth, booming inequality, shorter life expectancy, and a sense of despair among large parts of the population. These consequences add up to something much larger: a threat to the sustainability of democracy and the global market economy.

This drop in the government's share of national income is in part the result of conscious choices. In recent decades, lawmakers in Washington—and, to a somewhat lesser extent, in many other Western countries—have embraced a form of fundamentalism, according to which taxes are a hindrance to economic growth. Meanwhile, the rise of international tax competition and the growth of a global tax-avoidance industry have put additional downward pressure on revenues. Today, multinationals shift close to 40 percent of their profits to low-tax countries around the world. Over the last 20 years, according to the economist Brad Setser, U.S. firms have reported growth in profits only in a small number of low-tax jurisdictions; their reported profits in most of the world's major markets have not gone up significantly—a measure of how cleverly these firms shift capital to avoid taxes. Apple, for example, has demonstrated as much inventiveness in tax avoidance as it has in its technical engineering; in Ireland, the technology giant has paid a minuscule annual tax rate as low as 0.005 percent in some years.

It is not just corporations that engage in tax avoidance; among the superrich, dodging taxes is a competitive sport. An estimated eight percent of the world's household financial wealth is hidden in tax havens. Jurisdictions such as the Cayman Islands, Panama, and Switzerland have structured their economies around the goal of helping the world's rich hide their assets from their home governments. Even in places that don't show up on international watch lists—including U.S. states such as Delaware, Florida, and Nevada—banking and corporate secrecy enable people and firms to evade taxes, regulation, and public accountability.

Unchecked, these developments will concentrate wealth among a smaller and smaller number of people, while hollowing out the state institutions that provide public services to all. The result will be not just increased inequality within societies but also a crisis and breakdown in the very structure of capitalism, in the ability of markets to function and distribute their benefits broadly.

A WORLD FOR PLUTOCRATS

The parlous state of affairs today stems from policy choices that allowed elites to limit the reach of governments, including their ability to implement taxes. In the United States, the Supreme Court has at various times played the role of guardian of plutocratic privilege, making legally dubious rulings against a direct income tax in 1895 and early New Deal policies in the 1930s. At the state level, an emphasis on sales taxes over property taxes shifted the burden disproportionately onto the poor and people of color, while sheltering wealthier white households. Despite these obstacles, the United States succeeded in implementing one of the world's most progressive tax systems from the 1930s to the late 1970s, with top marginal income tax rates exceeding 90 percent, top estate tax rates nearing 80 percent, and effective tax rates on the very wealthy of about 60 percent at the middle of the century. But the administration of President Ronald Reagan dismantled this system, slashing the top marginal income tax rate to 28 percent in 1986, at the time the lowest among industrialized countries. There was a brief moment in 2010 when the estate tax was phased out completely under the terms of President George W. Bush's 2001 and 2003 tax cuts (those cuts were repealed in 2011, and the estate tax was reinstated).

The Bush administration broke with historical norms by starting a war in 2003 at the same time as it lowered taxes on the rich. It slashed top marginal rates, especially on those earning income from capital, while launching a calamitous war in Iraq that is estimated to have cost the United States upward of $3 trillion. In 2017, the Trump administration pushed this trend still further, not only lowering top marginal tax rates and corporate taxes but also creating so-called opportunity zone schemes that allow the wealthy to avoid capital gains taxes by investing in poor neighborhoods. In practice, however, real estate developers have used the new tax incentives to build luxury condos and yoga studios in affluent communities that are adjacent to—and even included in—the opportunity zones.

Over the last four decades, new loopholes, the rise of a cottage industry of advisers eager to help firms avoid taxes, and the spread of a corporate culture of tax avoidance have led to a situation in which a number of major U.S. companies pay no corporate taxes at all. This phenomenon is hardly unique to the United States. Many governments around the world have made their tax systems less progressive, all in the context of rising inequality. This process has been driven by reductions in the taxation of capital, including the fall of corporate taxes. The global average corporate income tax rate fell from 49 percent in 1985 to 24 percent in 2018. Today, according to the latest available estimates, corporations around the world shift more than $650 billion in profits each year (close to 40 percent of the profits they make outside the countries where they are headquartered) to tax havens, primarily Bermuda, Ireland, Luxembourg, Singapore, and a number of Caribbean islands.

Much of the blame lies with the existing transfer price system, which governs the taxation of goods and services sold between individual parts of multinational companies. This system was invented in the 1920s and has barely changed since then. It leaves important determinations (such as where to record profits) to companies themselves (regardless of where the profit-making activity took place), since the system was designed to manage the flows of manufactured goods that defined the global economy in the 1920s, when most trade occurred between separate firms; it was not designed for the modern world of trade in services, a world in which most trade takes place between subsidiaries of corporations. When one of us (Stiglitz) chaired the Council of Economic Advisers, in the 1990s, under President Bill Clinton, he waged a quiet but unsuccessful campaign to change the global system to the kind used within the United States to allocate profits between states (this arrangement is known as "formulary apportionment," whereby, for the purpose of assessing a company's tax, profits are assigned to a given state based on the share of the firm's sales, employment, and capital within that state). Entrenched corporate interests defended the status quo and got their way. Since then, intensifying globalization has only further encouraged the use of the transfer price system for tax dodging, compounding the problems posed by the flight of capital to tax havens.

Nowhere is tax avoidance more striking than in the technology sector. The richest companies in the world, owned by the richest people in the world, pay hardly any taxes. Technology companies are allowed to shift billions of dollars of profits to places such as Jersey, one of the Channel Islands, where the corporate tax rate is zero, with complete impunity. Some countries, including France and the United Kingdom, have attempted to impose a tax on some of the revenues the technology giants generate in their jurisdictions. But France's small, three percent tax, for example, has only reinforced the need for a new global agreement, for the tax does not go far enough; it targets only the digital sector, even though profit shifting is rampant across the board, including in the pharmaceutical, financial services, and manufacturing industries.

HOW THE RICHEST GET RICHER

Many policymakers, economists, corporate tycoons, and titans of finance insist that taxes are antithetical to growth. Opponents of tax increases claim that firms will reinvest more of their profits when less gets siphoned off by the government. In this view, corporate investment is the engine of growth: business expansion creates jobs and raises wages, to the ultimate benefit of workers. In the real world, however, there is no observable correlation between capital taxation and capital accumulation. From 1913 to the 1980s, the saving and investment rates in the United States have fluctuated but have usually hovered around ten percent of national income. After the tax cuts in the 1980s, under the Reagan administration, capital taxation collapsed, but rates of saving and investment also declined.

The 2017 tax cut illustrates this dynamic. Instead of boosting annual wages by $4,000 per family, encouraging corporate investment, and driving a surge of sustained economic growth, as its proponents promised it would, the cut led to minuscule increases in wages, a couple of quarters of increased growth, and, instead of investment, a $1 trillion boom in stock buybacks, which produced only a windfall for the rich shareholders already at the top of the income pyramid. The public, of course, is paying for the bonanza: the United States is experiencing its first $1 trillion deficit.

Lower taxes on capital have one main consequence: the rich, who derive most of their income from existing capital, get to accumulate more wealth. In the United States, the share of wealth owned by the richest one percent of the adult population has exploded, from 22 percent in the late 1970s to 37 percent in 2018. Conversely, over the same period, the wealth share of the bottom 90 percent of adults declined from 40 percent to 27 percent. Since 1980, what the bottom 90 percent has lost, the top one percent has gained.

This spiraling inequality is bad for the economy. For starters, inequality weakens demand: the bulk of the population has less money to spend, and the rich don't tend to direct their new income gains to the purchase of goods and services from the rest of the economy; instead, they hoard their wealth in offshore tax havens or in pricey art that sits in storage bins. Economic growth slows because less money overall is spent in the economy. In the meantime, inequality is passed down from generation to generation, giving the children of the wealthy a better shot at getting into the top schools and living in the best neighborhoods, perpetuating a cycle of ever-deeper division between the haves and the have-nots.

Inequality also distorts democracy. In the United States especially, millionaires and billionaires have disproportionate access to political campaigns, elected officials, and the policymaking process. Economic elites are almost always the winners of any legislative or regulatory battle in which their interests might conflict with those of the middle class or the poor. The oil magnates the Koch brothers and other right-wing financiers have successfully built political machines to take over state houses and push anti-spending and anti-union laws that exacerbate inequality. Even rich individuals who are seen as more politically moderate—technology executives, for instance—tend to focus their political efforts on narrow technocratic issues rather than the distributional conflicts that define today's politics.

MAKE THEM PAY

Nothing less than a bold new regime of domestic and international taxes will save wealthy democracies and economies from the distortions and dangers of rampant inequality. The first order of business should be establishing a fiscal system that generates the tax revenue required for a twenty-first-century economy—an amount that will need to be even higher than those prevalent in the middle of the twentieth century, the period of the fastest economic growth in the United States and in which prosperity was more evenly shared. In today's innovative economy, governments will need to spend more on basic research and education (12 years of schooling might have sufficed in 1950, but not today). In today's urbanized society, governments need to spend more on expensive urban infrastructure. In today's service economy, governments need to spend more on health care and caring for the aged, areas in which the state has naturally played a central role. In today's dynamic and ever-changing economy, governments will have to spend more to help individuals cope better with the inevitable dislocations of economic transformation. Addressing the existential problem of climate change will also require large amounts of investment in green infrastructure.

With more and more income going to the very wealthy and to corporations, only a far more progressive tax code will provide the necessary level of revenue. There is no reason that the salaries of workers should be taxed at a higher rate than capital. Plumbers, carpenters, and autoworkers should not pay a higher rate than private-equity managers; mom-and-pop retailers should not pay a higher rate than the world's richest corporations.

The next step would be to eliminate special provisions that exempt dividends, capital gains, carried interest, real estate, and other forms of wealth from taxation. Today, when assets are passed on from one generation to another, the underlying capital gains escape taxation altogether; as a consequence, many wealthy individuals manage to avoid paying capital gains taxes on their assets. It is as if the tax code were designed to create an inherited plutocracy, not to create a world with equality of opportunity. Without increasing tax rates, eliminating these special provisions for the owners of capital—making them pay the same rate as workers—would generate trillions of dollars over the next ten years.

Another improvement would be a wealth tax, such as the one recently proposed by Elizabeth Warren, the Democratic U.S. senator from Massachusetts who is currently running for president. She has proposed a tax of two percent on wealth above $50 million and six percent on wealth above $1 billion. Such a tax could raise nearly $3.6 trillion over the next decade. It would be paid by the 75,000 richest American families—less than 0.1 percent of the population.

To curb the evasion of income and wealth taxes, countries will have to cooperate much more with one another. Instead of allowing rich people and corporations to hide their assets through elaborate offshore trusts and other legal vehicles, countries must create a global wealth registry that records the ultimate owners of all assets. The United States could start by drawing on the comprehensive information that already exists within private financial institutions such as the Depository Trust Company. The European Union could easily do the same, and these registries could eventually be merged.

Governments would also have to tax corporations chartered in their jurisdictions on their global income and not allow them to shift money to low-tax jurisdictions through the use of subsidiaries or other means. Instead of effectively letting firms self-declare the national provenance of their profits, governments should attribute tax-able corporate income to places through formulary apportionment. Under this system, Apple could not get away with its profit-shifting gimmicks. Finally, a global minimum tax should be instituted to set a floor on how low would-be tax havens could drop their rates.

Once these new rules are in place, they will need adequate enforcement—as will the tax laws already on the books. The Internal Revenue Service has been devastated in recent years, losing thousands of employees between 2010 and 2016, a trend that has only gotten worse in the Trump era. The agency needs to add thousands of employees, offer them competitive salaries, and upgrade its outdated information technology systems.

At the international level, policymakers have to find the right mode of cooperation that will produce the best and most rigorous enforcement of tax collection. One option would require the biggest developed economies (the United States and western European countries) to move first, demanding that firms that trade in their markets follow the new rules and using diplomatic pressure to get other countries to adopt a similar system (which would benefit them through the collection of tax revenue they cannot tap now). There is a substantial debate raging over whether the world needs new trade agreements after decades of trade liberalization have boosted inequality within countries; regardless, it would make sense to condition the signing of any new trade deals on adherence to stricter rules on tax cooperation. There may be room for a multilateral approach—for instance, by turning the currently beleaguered World Trade Organization into a body that could help with tax enforcement and other matters of international cooperation, such as climate change. Substantial changes would be needed to the culture and personnel of the WTO to make that happen. Whichever path governments choose, it is important to recognize that there is an alternative to neoliberal trade policy. Instead of a model that limits the ability of sovereign states to guard against the flight of capital and tax avoidance, governments can build a model of trade that supports tax justice.

In the United States, most of these reforms could be achieved within the existing constraints of the U.S. Constitution. There is a debate about the wealth tax, which conservatives have claimed would run up against constitutional strictures on direct taxation; many historians and legal scholars dispute this conservative objection. Some critics might also allege that these proposals are too extreme, claiming that they will discourage investment, hurt the economy, and slow down growth. Nothing could be further from the truth. In fact, what is truly extreme is the experiment in taxation that began during the Reagan era, when tax rates on the rich and corporations began their dramatic descent. The results have been clear: slow growth, high deficits, and unprecedented inequality.

REVIVING THE STATE

These enormous problems have created demands for even more extensive reforms. As younger voters tilt further to the left, delaying an overhaul of the current tax regime and continuing to strip revenue from the state may give rise to policy changes that are far more radical than those outlined here. A more chilling threat might come from the right: time and again, authoritarians and nationalists have proved adept at channeling public anger over inequality and exploiting it for their own ends.

By eating up the state, capitalism eats itself. For centuries, markets have relied on strong states to guarantee security, standardize measures and currencies, build and maintain infrastructure, and prosecute bad actors who attain their wealth by exploiting others in one way or another. States lay the basis for the healthy, educated populations that can participate in and contribute to the successful flourishing of markets. Allowing states to collect their fair share of revenue in the form of taxes will not usher in a dystopian era of oppressive government. Instead, strengthening the state will return capitalism to a better path, toward a future in which markets function in the interests of the societies that produce them, and in which the benefits of economic activity will not be restricted to a vanishingly small elite.

Climate Change Is Already Killing Us

How Our Warmer and Wetter Planet Is Getting Sicker and Deadlier by the Day

Tedros Adhanom Ghebreyesus

SEPTEMBER 23, 2019

As world leaders gather on Monday for the Climate Action Summit at the UN General Assembly, it is sadly clear that the prospect of rising global temperatures and sea levels has failed to generate a sufficient sense of urgency around climate change. What might spur leaders to action, if it were better understood, is the enormous threat that climate change already poses to human health.

Climate change exacerbates chronic and contagious disease, worsens food and water shortages, increases the risk of pandemics, and aggravates mass displacement. The broad environmental effects of climate change have long been discussed as long-term risks; what's clear now is that the health effects are worse than anticipated—and that they're already being felt.

CLIMATE ILLS

The dangerous health effects of climate change begin with the emissions that cause it. Black carbon, methane, and nitrogen oxides are powerful drivers of global warming, and, along with other air pollutants such as carbon monoxide and ozone, they are responsible for over

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seven million deaths each year, about one in eight worldwide. The problem extends beyond cities with famously poor air quality, such as New Delhi, Beijing, and São Paulo. Ninety percent of the world's urban dwellers breathe air containing unsafe pollution levels, according to the World Health Organization (WHO).

The dangers start at the beginning of life. Toxic pollutants cross the placenta, increasing the risk of preterm birth and low birth weight, which can cause lifelong damage to multiple organ systems. Children breathe more rapidly than adults do, so they absorb more pollutants at a time when their developing organs are more vulnerable. As a result, air pollution causes an estimated 600,000 deaths each year in children under five, mostly from pneumonia. There is also emerging evidence that air pollution compromises children's cognitive development and can increase their risk of behavioral disorders.

In adults, pollution contributes to a wide range of respiratory and circulatory diseases, and may accelerate cognitive decline in seniors. Most air-pollution-related deaths are due to heart attacks and strokes, but ambient air pollution also accounts for a significant number of pneumonia, asthma, emphysema, and lung cancer deaths.

In addition to air pollution, emissions are responsible for rising global temperatures. These in turn lead to increased humidity and cause more frequent and intense heat waves that worsen hypertension and mental health problems, and can limit the effectiveness of certain medications. When a person's body temperature rises to 104 degrees Fahrenheit or above, systematic organ failure occurs. Heat waves this summer killed 1,435 people in France alone, the only country to have published statistics on heat-related deaths. As many of the world's major population centers grow hotter and more humid, more people will die from simply overheating.

Climate change also compounds the threat of communicable diseases. Increased rainfall and higher temperatures favor vector-borne diseases—those caused by parasites, viruses, and bacteria transmitted by mosquitoes, ticks, flies, and fleas. Cold-blooded insects generally prefer warmer temperatures, which not only extend their breeding seasons but accelerate their geographical expansion.

The mosquito is already the deadliest animal in the world, causing more than half a million deaths each year—438,000 of them from malaria. Warmer temperatures make it easier to transmit malaria at higher altitudes, and may cause it to spread farther into African highlands.

Another virus likely to spread as a result of climate change is dengue, which currently infects 96 million people each year and kills 90,000 of them. Dengue virus is transmitted by two species of mosquito—*Aedes aegypti* and *Aedes albopictus*—that are unusually tough and also transmit yellow fever, Zika, West Nile, and other viruses. More than half the world's population lives in areas where an *Aedes* species is already present—and that proportion is likely to grow. *A. aegypti* in particular thrives not only in warm and moist environments but in drought-prone ones, too. Europe, North America, and high-elevation areas in the tropics may soon have to contend with dengue as well as other emerging diseases.

The steady swarm of *Aedes* into new regions points to the single biggest threat of all: pandemic disease. As man-made climate change has taken hold over the last four decades, dozens of new infectious diseases have emerged or begun to threaten new regions, including Zika and Ebola. Cholera is also becoming more difficult to control: warm, brackish waters and rising sea levels help spread the disease, which infects about four million people each year and kills about 100,000 of them. Bubonic plague, spread by rats and fleas, is predicted to increase with warmer springs and wetter summers. Anthrax, whose spores are released by thawing permafrost, could spread farther as a result of stronger winds.

And those are just the direct health effects of climate change. Rising sea levels and increased ocean acidification will reduce fishing and aquaculture, aggravating malnutrition and food insecurity. Contamination of aquifers will exacerbate water shortages. Droughts, which already kill and displace more people than any other type of weather catastrophe, are predicted to grow longer and more frequent. The World Bank estimates that by 2050, there could be one billion climate refugees from sub-Saharan Africa, South Asia, and Latin America.

A HEALTHY RESPONSE

Extreme weather also disrupts public health infrastructure and services. That is why it is imperative that countries around the world invest in adapting health-care systems to the environmental changes already underway and likely to follow. At the first high-level meeting on Universal Health Coverage (UHC) at the United Nations, the WHO will call on world leaders to invest not only in safe water, hygiene, and sanitation services but also in universal access to health services for chronic disease, child health, and antenatal and palliative care. Almost every disease caused or aggravated by climate change can be prevented or treated if addressed early. Unfortunately, the WHO projects that by 2030, 42 percent of the world's population will either not have access to health services or not be able to afford them.

Universal health coverage includes screening and accurate and timely diagnostics. It also includes surveillance and rapid response to emerging global health threats. The world has tended to fight such threats one disease at a time—whether it is smallpox, polio, TB, HIV/AIDS, or malaria—and to adopt a firefighting approach when a deadly pandemic such as Ebola emerges. Taking on the whole range of global health threats at once by implementing universal health coverage by 2030 is not only the best way to prepare for inevitable climate-related catastrophes; it will also prevent up to one billion deaths from communicable disease, according to the WHO.

As world leaders gather in New York to address climate change, they should remember the threat that it poses to human health and act decisively to implement universal health coverage.

Deepfakes and the New Disinformation War

The Coming Age of Post-Truth Geopolitics

Robert Chesney and Danielle Citron

JANUARY/FEBRUARY 2019

A picture may be worth a thousand words, but there is nothing that persuades quite like an audio or video recording of an event. At a time when partisans can barely agree on facts, such persuasiveness might seem as if it could bring a welcome clarity. Audio and video recordings allow people to become firsthand witnesses of an event, sparing them the need to decide whether to trust someone else's account of it. And thanks to smartphones, which make it easy to capture audio and video content, and social media platforms, which allow that content to be shared and consumed, people today can rely on their own eyes and ears to an unprecedented degree.

Therein lies a great danger. Imagine a video depicting the Israeli prime minister in private conversation with a colleague, seemingly revealing a plan to carry out a series of political assassinations in Tehran. Or an audio clip of Iranian officials planning a covert operation to kill Sunni leaders in a particular province of Iraq. Or a video showing an American general in Afghanistan burning a Koran. In a world already primed for violence, such recordings would have a powerful potential for incitement. Now imagine that these recordings could be faked using

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tools available to almost anyone with a laptop and access to the Internet—and that the resulting fakes are so convincing that they are impossible to distinguish from the real thing.

Advances in digital technology could soon make this nightmare a reality. Thanks to the rise of "deepfakes"—highly realistic and difficult-to-detect digital manipulations of audio or video—it is becoming easier than ever to portray someone saying or doing something he or she never said or did. Worse, the means to create deepfakes are likely to proliferate quickly, producing an ever-widening circle of actors capable of deploying them for political purposes. Disinformation is an ancient art, of course, and one with a renewed relevance today. But as deepfake technology develops and spreads, the current disinformation wars may soon look like the propaganda equivalent of the era of swords and shields.

DAWN OF THE DEEPFAKES

Deepfakes are the product of recent advances in a form of artificial intelligence known as "deep learning," in which sets of algorithms called "neural networks" learn to infer rules and replicate patterns by sifting through large data sets. (Google, for instance, has used this technique to develop powerful image-classification algorithms for its search engine.) Deepfakes emerge from a specific type of deep learning in which pairs of algorithms are pitted against each other in "generative adversarial networks," or GANs. In a GAN, one algorithm, the "generator," creates content modeled on source data (for instance, making artificial images of cats from a database of real cat pictures), while a second algorithm, the "discriminator," tries to spot the artificial content (pick out the fake cat images). Since each algorithm is constantly training against the other, such pairings can lead to rapid improvement, allowing GANs to produce highly realistic yet fake audio and video content.

This technology has the potential to proliferate widely. Commercial and even free deepfake services have already appeared in the open market, and versions with alarmingly few safeguards are likely to emerge on the black market. The spread of these services will lower the barriers to entry, meaning that soon, the only practical constraint on one's ability to produce a deepfake will be access to training materials—that is, audio and video of the person to be modeled—to feed the GAN. The capacity to create professional-grade forgeries will come within reach of nearly anyone with sufficient interest and the knowledge of where to go for help.

Deepfakes have a number of worthy applications. Modified audio or video of a historical figure, for example, could be created for the purpose of educating children. One company even claims that it can use the technology to restore speech to individuals who have lost their voice to disease. But deepfakes can and will be used for darker purposes, as well. Users have already employed deepfake technology to insert people's faces into pornography without their consent or knowledge, and the growing ease of making fake audio and video content will create ample opportunities for blackmail, intimidation, and sabotage. The most frightening applications of deepfake technology, however, may well be in the realms of politics and international affairs. There, deepfakes may be used to create unusually effective lies capable of inciting violence, discrediting leaders and institutions, or even tipping elections.

Deepfakes have the potential to be especially destructive because they are arriving at a time when it already is becoming harder to separate fact from fiction. For much of the twentieth century, magazines, newspapers, and television broadcasters managed the flow of information to the public. Journalists established rigorous professional standards to control the quality of news, and the relatively small number of mass media outlets meant that only a limited number of individuals and organizations could distribute information widely. Over the last decade, however, more and more people have begun to get their information from social media platforms, such as Facebook and Twitter, which depend on a vast array of users to generate relatively unfiltered content. Users tend to curate their experiences so that they mostly encounter perspectives they already agree with (a tendency heightened by the platforms' algorithms), turning their social media feeds into echo chambers. These platforms are also susceptible to so-called information cascades, whereby people pass along information shared by others without bothering to check if it is true, making it appear more credible in the process. The end result is that falsehoods can spread faster than ever before.

These dynamics will make social media fertile ground for circulating deepfakes, with potentially explosive implications for politics. Russia's attempt to influence the 2016 U.S. presidential election—spreading divisive and politically inflammatory messages on Facebook and Twitter—already demonstrated how easily disinformation can be injected into the social media bloodstream. The deepfakes of tomorrow will be more vivid and realistic and thus more shareable than the fake news of 2016. And because people are especially prone to sharing negative and novel information, the more salacious the deepfakes, the better.

DEMOCRATIZING FRAUD

The use of fraud, forgery, and other forms of deception to influence politics is nothing new, of course. When the USS *Maine* exploded in Havana Harbor in 1898, American tabloids used misleading accounts of the incident to incite the public toward war with Spain. The anti-Semitic tract *Protocols of the Elders of Zion,* which described a fictional Jewish conspiracy, circulated widely during the first half of the twentieth century. More recently, technologies such as Photoshop have made doctoring images as easy as forging text. What makes deepfakes unprecedented is their combination of quality, applicability to persuasive formats such as audio and video, and resistance to detection. And as deepfake technology spreads, an ever-increasing number of actors will be able to convincingly manipulate audio and video content in a way that once was restricted to Hollywood studios or the most well-funded intelligence agencies.

Deepfakes will be particularly useful to nonstate actors, such as insurgent groups and terrorist organizations, which have historically lacked the resources to make and disseminate fraudulent yet credible audio or video content. These groups will be able to depict their adversaries—including government officials—spouting inflammatory words or engaging in provocative actions, with the specific content carefully chosen to maximize the galvanizing impact on their target audiences. An affiliate of the Islamic State (or ISIS), for instance, could create a video depicting a U.S. soldier shooting civilians or discussing a plan to bomb a mosque, thereby aiding the terrorist group's recruitment. Such videos will be especially difficult to debunk in cases where the target audience already distrusts the person shown in the deepfake. States can and no doubt will make parallel use of deepfakes to undermine their nonstate opponents.

Deepfakes will also exacerbate the disinformation wars that increasingly disrupt domestic politics in the United States and elsewhere. In 2016, Russia's state-sponsored disinformation operations were remarkably successful in deepening existing social cleavages in the United States. To cite just one example, fake Russian accounts on social media claiming to be affiliated with the Black Lives Matter movement shared inflammatory content purposely designed to stoke racial tensions. Next time, instead of tweets and Facebook posts, such disinformation could come in the form of a fake video of a white police officer shouting racial slurs or a Black Lives Matter activist calling for violence.

Perhaps the most acute threat associated with deepfakes is the possibility that a well-timed forgery could tip an election. In May 2017, Moscow attempted something along these lines. On the eve of the French election, Russian hackers tried to undermine the presidential campaign of Emmanuel Macron by releasing a cache of stolen documents, many of them doctored. That effort failed for a number of reasons, including the relatively boring nature of the documents and the effects of a French media law that prohibits election coverage in the 44 hours immediately before a vote. But in most countries, most of the time, there is no media blackout, and the nature of deepfakes means that damaging content can be guaranteed to be salacious or worse. A convincing video in which Macron appeared to admit to corruption, released on social media only 24 hours before the election, could have spread like wildfire and proved impossible to debunk in time.

Deepfakes may also erode democracy in other, less direct ways. The problem is not just that deepfakes can be used to stoke social and ideological divisions. They can create a “liar’s dividend”: as people become more aware of the existence of deepfakes, public figures caught in genuine recordings of misbehavior will find it easier to cast doubt on the evidence against them. (If deepfakes were prevalent during the 2016 U.S. presidential election, imagine how much easier it would have been for Donald Trump to have disputed the authenticity of the infamous audiotape in which he brags about groping women.) More broadly, as the public becomes sensitized to the threat of deepfakes, it may become less inclined to trust news in general. And journalists, for their part, may become more wary about relying on, let alone publishing, audio or video of fast-breaking events for fear that the evidence will turn out to have been faked.

DEEP FIX

There is no silver bullet for countering deepfakes. There are several legal and technological approaches—some already existing, others likely to emerge—that can help mitigate the threat. But none will overcome the problem altogether. Instead of full solutions, the rise of deepfakes calls for resilience.

Three technological approaches deserve special attention. The first relates to forensic technology, or the detection of forgeries through technical means. Just as researchers are putting a great deal of time and effort into creating credible fakes, so, too, are they developing methods of enhanced detection. In June 2018, computer scientists at Dartmouth and the University at Albany, SUNY, announced that they had created a program that detects deepfakes by looking for abnormal patterns of eyelid movement when the subject of a video blinks. In the deepfakes arms race, however, such advances serve only to inform the next wave of innovation. In the future, GANs will be fed training videos that include examples of normal blinking. And even if extremely capable detection algorithms emerge, the speed with which deepfakes can circulate on social media will make debunking them an uphill battle. By the time the forensic alarm bell rings, the damage may already be done.

A second technological remedy involves authenticating content before it ever spreads—an approach sometimes referred to as a "digital provenance" solution. Companies such as Truepic are developing ways to digitally watermark audio, photo, and video content at the moment of its creation, using metadata that can be logged immutably on a distributed ledger, or blockchain. In other words, one could effectively stamp content with a record of authenticity that could be used later as a reference to compare to suspected fakes.

In theory, digital provenance solutions are an ideal fix. In practice, they face two big obstacles. First, they would need to be ubiquitously deployed in the vast array of devices that capture content, including laptops and smartphones. Second, their use would need to be made a precondition for uploading content to the most popular digital platforms, such as Facebook, Twitter, and YouTube. Neither condition is likely to be met. Device makers, absent some legal or regulatory obligation, will not adopt digital authentication until they know it is affordable, in demand, and unlikely to interfere with the performance of their products. And few social media platforms will want to block people from uploading unauthenticated content, especially when the first one to do so will risk losing market share to less rigorous competitors.

A third, more speculative technological approach involves what has been called "authenticated alibi services," which might soon begin emerging from the private sector. Consider that deepfakes are especially dangerous to high-profile individuals, such as politicians and celebrities, with valuable but fragile reputations. To protect themselves against deepfakes, some of these individuals may choose to engage in enhanced forms of "lifelogging"—the practice of recording nearly every aspect of one's life—in order to prove where they were and what they were saying or doing at any given time. Companies might begin offering bundles of alibi services, including wearables to make lifelogging convenient, storage to cope with the vast amount of resulting data, and credible authentication of those data. These bundles could even include partnerships with major news and social media platforms, which would enable rapid confirmation or debunking of content.

Such logging would be deeply invasive, and many people would want nothing to do with it. But in addition to the high-profile individuals who choose to adopt lifelogging to protect themselves, some employers might begin insisting on it for certain categories of employees, much as police departments increasingly require officers to use body cameras. And even if only a relatively small number of people took up intensive lifelogging, they would produce vast repositories of data in which the rest of us would find ourselves inadvertently caught, creating a massive peer-to-peer surveillance network for constantly recording our activities.

LAYING DOWN THE LAW

If these technological fixes have limited upsides, what about legal remedies? Depending on the circumstances, making or sharing a deepfake could constitute defamation, fraud, or misappropriation of a person's likeness, among other civil and criminal violations. In theory, one could close any remaining gaps by criminalizing (or attaching civil liability to) specific acts—for instance, creating a deepfake of a real person with the intent to deceive a viewer or listener and with the expectation that this deception would cause some specific kind of harm. But it could be hard to make these claims or charges stick in practice. To begin with, it will likely prove very difficult to attribute the creation of a deepfake to a particular person or group. And even if perpetrators are identified, they may be beyond a court's reach, as in the case of foreign individuals or governments.

Another legal solution could involve incentivizing social media platforms to do more to identify and remove deepfakes or fraudulent content more generally. Under current U.S. law, the companies that own these platforms are largely immune from liability for the content they host, thanks to Section 230 of the Communications Decency Act of 1996. Congress could modify this immunity, perhaps by amending Section 230 to make companies liable for harmful and fraudulent information distributed through their platforms unless they have made reasonable efforts to detect and remove it. Other countries have used a similar approach for a different problem: in 2017, for instance, Germany passed a law imposing stiff fines on social media companies that failed to remove racist or threatening content within 24 hours of it being reported.

Yet this approach would bring challenges of its own. Most notably, it could lead to excessive censorship. Companies anxious to avoid legal liability would likely err on the side of policing content too aggressively, and users themselves might begin to self-censor in order to avoid the risk of having their content suppressed. It is far from obvious that the notional benefits of improved fraud protection would justify these costs to free expression. Such a system would also run the risk of insulating incumbent platforms, which have the resources to police content and pay for legal battles, against competition from smaller firms.

LIVING WITH LIES

The unavoidable conclusion is that deepfakes spell trouble. As interest in the technology mounts, deepfakes will improve in quality, become ever cheaper and easier to make, and be disseminated widely through both commercial services and the black markets of the Dark Web, where deepfake production is likely to emerge as a service for hire. The result will be a rising tide of false yet highly realistic audio and video content, ready to be weaponized for political purposes and spread on social media.

But although deepfakes are dangerous, they will not necessarily be disastrous. Detection will improve, prosecutors and plaintiffs will occasionally win legal victories against the creators of harmful fakes, and the major social media platforms will gradually get better at flagging and removing fraudulent content. And digital provenance solutions could, if widely adopted, provide a more durable fix at some point in the future.

In the meantime, democratic societies will have to learn resilience. On the one hand, this will mean accepting that audio and video content cannot be taken at face value; on the other, it will mean fighting the descent into a post-truth world, in which citizens retreat to their private information bubbles and regard as fact only that which flatters their own beliefs. In short, democracies will have to accept an uncomfortable truth: in order to survive the threat of deepfakes, they are going to have to learn how to live with lies.

Killer Apps

The Real Dangers of an AI Arms Race

Paul Scharre

MAY/JUNE 2019

The nation that leads in the development of artificial intelligence will, Russian President Vladimir Putin proclaimed in 2017, "become the ruler of the world." That view has become commonplace in global capitals. Already, more than a dozen governments have announced national AI initiatives. In 2017, China set a goal of becoming the global leader in AI by 2030. Earlier this year, the White House released the American AI Initiative, and the U.S. Department of Defense rolled out an AI strategy.

But the emerging narrative of an "AI arms race" reflects a mistaken view of the risks from AI—and introduces significant new risks as a result. For each country, the real danger is not that it will fall behind its competitors in AI but that the perception of a race will prompt everyone to rush to deploy unsafe AI systems. In their desire to win, countries risk endangering themselves just as much as their opponents.

AI promises to bring both enormous benefits, in everything from health care to transportation, and huge risks. But those risks aren't something out of science fiction; there's no need to fear a robot uprising. The real threat will come from humans.

Right now, AI systems are powerful but unreliable. Many of them are vulnerable to sophisticated attacks or fail when used outside the environment in which they were trained. Governments want their

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systems to work properly, but competition brings pressure to cut corners. Even if other countries aren't on the brink of major AI breakthroughs, the perception that they're rushing ahead could push others to do the same. And if a government deployed an untested AI weapons system or relied on a faulty AI system to launch cyberattacks, the result could be disaster for everyone involved.

Policymakers should learn from the history of computer networks and make security a leading factor in AI design from the beginning. They should also ratchet down the rhetoric about an AI arms race and look for opportunities to cooperate with other countries to reduce the risks from AI. A race to the bottom on AI safety is a race no one would win.

THE AIS HAVE IT

The most straightforward kind of AI system performs tasks by following a series of rules set in advance by humans. These "expert systems," as they are known, have been around for decades. They are now so ubiquitous that we hardly stop to think of the technology behind airplane autopilots or tax-preparation software as AI. But in the past few years, advances in data collection, computer processing power, and algorithm design have allowed researchers to make big progress with a more flexible AI method: machine learning.

In machine learning, a programmer doesn't write the rules; the machine picks them up by analyzing the data it is given. Feed an algorithm thousands of labeled photos of objects, and it will learn to associate the patterns in the images with the names of the objects. The current AI boom began in 2012, when researchers made a breakthrough using a machine-learning technique called "deep learning," which relies on deep neural networks. Neural networks are an AI technique loosely inspired by biological neurons, the cells that communicate with other cells by sending and receiving electrical impulses. An artificial neural network starts out as a blank slate; it doesn't know anything. The system learns by adjusting the strength of the connections between neurons, strengthening certain pathways for right answers and weakening the connections for wrong answers. A deep neural network—the type responsible for deep learning—is a neural network with many layers of artificial neurons between the input and output layers. The extra layers allow for more variability in the strengths of different pathways and thus help the AI cope with a wider variety of circumstances.

How exactly the system learns depends on which machine-learning algorithm and what kind of data the developers use. Many approaches use data that are already labeled (known as "supervised learning"), but machines can also learn from data that are not labeled ("unsupervised learning") or directly from the environment ("reinforcement learning"). Machines can also train on synthetic, computer-generated data. The autonomous car company Waymo has driven its cars for over ten million miles on public roads, but the company clocks ten million miles every day in computer simulations, allowing it to test its algorithms on billions of miles of synthetic data.

Since the deep-learning breakthrough in 2012, researchers have created AI systems that can match or exceed the best human performance in recognizing faces, identifying objects, transcribing speech, and playing complex games, including the Chinese board game go and the real-time computer game StarCraft. Deep learning has started to outstrip older, rules-based AI systems, too. In 2018, a deep-learning algorithm beat the reigning chess computer program after spending just four hours playing millions of games against itself on a massive supercomputer without any human training data or hand-coded rules to guide its behavior.

Researchers are now applying AI to a host of real-world problems, from diagnosing skin cancers to driving cars to improving energy efficiency. According to an estimate by the consulting firm McKinsey, almost half of all the tasks people are paid to perform in the United States could be automated with existing technology (although less than five percent of jobs could be eliminated entirely). AI tools are also becoming more widely available. Large organizations are the most likely to make major breakthroughs, thanks to their ability to amass large data sets and huge quantities of computing power. But many of the resulting AI tools are available online for anyone to use. Free programming courses teach people how to make their own AI systems, and trained neural networks are free to download. Accessibility will spur innovation, but putting powerful AI tools into the hands of anyone who wants them will also help those who set out to do harm.

AUTOCRATIC INTELLIGENCE

Harm from AI misuse isn't hypothetical; it's already here. Bots are regularly used to manipulate social media, amplifying some messages and suppressing others. Deepfakes, AI-generated fake videos, have been used in so-called revenge porn attacks, in which a person's face is digitally grafted onto the body of a pornographic actor.

These examples are only the start. Political campaigns will use AI-powered data analytics to target individuals with political propaganda tailored just for them. Companies will use the same analytics to design manipulative advertising. Digital thieves will use AI tools to create more effective phishing attacks. Bots will be able to convincingly impersonate humans online and over the phone by cloning a person's voice with just a minute of audio. Any interaction that isn't in person will become suspect. Security specialists have shown that it's possible to hack into autonomous cars, disabling the steering and brakes. Just one person could conceivably hijack an entire fleet of vehicles with a few keystrokes, creating a traffic jam or launching a terrorist attack.

AI's power as a tool of repression is even more frightening. Authoritarian governments could use deepfakes to discredit dissidents, facial recognition to enable round-the-clock mass surveillance, and predictive analytics to identify potential troublemakers. China has already started down the road toward digital authoritarianism. It has begun a massive repression campaign against the Muslim Uighur population in Xinjiang Province. Many of the tools the government is using there are low tech, but it has also begun to use data analytics, facial recognition systems, and predictive policing (the use of data to predict criminal activity). Vast networks of surveillance cameras are linked up to algorithms that can detect anomalous public behavior, from improperly parked vehicles to people running where they are not allowed. The Chinese company Yuntian Lifei Technology boasts that its intelligent video surveillance system has been deployed in nearly 80 Chinese cities and has identified some 6,000 incidents related to "social governance." Some of the ways in which Chinese authorities now use AI seem trivial, such as tracking how much toilet paper people use in public restrooms. Their proposed future uses are more sinister, such as monitoring patterns of electricity use for signs of suspicious activity.

China is not just building a techno-dystopian surveillance state at home; it has also begun exporting its technology. In 2018, Zimbabwe signed a deal with the Chinese company CloudWalk Technology to create a national database of faces and install facial recognition surveillance systems at airports, railway stations, and bus stops. There's more than money at stake in the deal. Zimbabwe has agreed to let CloudWalk send data on millions of faces back to China, helping the company improve its facial recognition systems for people with dark skin. China also plans to sell surveillance technology in Malaysia, Mongolia, and Singapore.

China is exporting its authoritarian laws and policies, too. According to Freedom House, China has held training sessions with government officials and members of the media from over 30 countries on methods to monitor and control public opinion. Three countries—Tanzania, Uganda, and Vietnam—passed restrictive media and cybersecurity laws soon after engaging with China.

WHAT AI WILL DO

Whichever country takes the lead on AI will use it to gain economic and military advantages over its competitors. By 2030, AI is projected to add between $13 trillion and $15 trillion to the global economy. AI could also accelerate the rate of scientific discovery. In 2019, an artificial neural network significantly outperformed existing approaches in synthetic protein folding, a key task in biological research.

AI is also set to revolutionize warfare. It will likely prove most useful in improving soldiers' situational awareness on the battlefield and commanders' ability to make decisions and communicate orders. AI systems can process more information than humans, and they can do it more quickly, making them valuable tools for assessing chaotic battles in real time. On the battlefield itself, machines can move faster and with greater precision and coordination than people. In the recent AI-versus-human StarCraft match, the AI system, AlphaStar, displayed superhuman abilities in rapidly processing large amounts of information, coordinating its units, and moving them quickly and precisely. In the real world, these advantages will allow AI systems to manage swarms of robots far more effectively than humans could by controlling them manually. Humans will retain their advantages in higher-level strategy, but AI will dominate on the ground.

Washington's rush to develop AI is driven by a fear of falling behind China, which is already a global powerhouse in AI. The Chinese technology giants Alibaba, Baidu, and Tencent rank right alongside Amazon, Google, and Microsoft as leading AI companies. Five of the ten AI start-ups with the most funding last year were Chinese. Ten years ago, China's goal of becoming the global leader in AI by 2030 would have seemed fanciful; today, it's a real possibility.

Equally alarming for U.S. policymakers is the sharp divide between Washington and Silicon Valley over the military use of AI. Employees at Google and Microsoft have objected to their companies' contracts with the Pentagon, leading Google to discontinue work on a project using AI to analyze video footage. China's authoritarian regime doesn't permit this kind of open dissent. Its model of "military-civil fusion" means that Chinese technology innovations will translate more easily into military gains. Even if the United States keeps the lead in AI, it could lose its military advantage. The logical response to the threat of another country winning the AI race is to double down on one's own investments in AI. The problem is that AI technology poses risks not just to those who lose the race but also to those who win it.

THE ONLY WINNING MOVE IS NOT TO PLAY

Today's AI technologies are powerful but unreliable. Rules-based systems cannot deal with circumstances their programmers did not anticipate. Learning systems are limited by the data on which they were trained. AI failures have already led to tragedy. Advanced autopilot features in cars, although they perform well in some circumstances, have driven cars without warning into trucks, concrete barriers, and parked cars. In the wrong situation, AI systems go from supersmart to superdumb in an instant. When an enemy is trying to manipulate and hack an AI system, the risks are even greater.

Even when they don't break down completely, learning systems sometimes learn to achieve their goals in the wrong way. In a research paper last year, a group of 52 AI researchers recounted dozens of times when AI systems showed surprising behavior. An algorithm learning to walk in a simulated environment discovered it could move fastest by repeatedly falling over. A Tetris-playing bot learned to pause the game before the last brick fell, so that it would never lose. One program deleted the files containing the answers against which it was being evaluated, causing it to be awarded a perfect score. As the researchers wrote, "It is often functionally simpler for evolution to exploit loopholes in the quantitative measure than it is to achieve the actual desired outcome." Surprise seems to be a standard feature of learning systems.

Machine-learning systems are only ever as good as their training data. If the data don't represent the system's operating environment well, the system can fail in the real world. In 2018, for example, researchers at the MIT Media Lab showed that three leading facial recognition systems were far worse at classifying dark-skinned faces than they were at classifying light-skinned ones.

When they fail, machine-learning systems are also often frustratingly opaque. For rules-based systems, researchers can always explain the machine's behavior, even if they can't always predict it. For deep-learning systems, however, researchers are often unable to understand why a machine did what it did. Ali Rahimi, an AI researcher at Google, has argued that much like medieval alchemists, who discovered modern glassmaking techniques but did not understand the chemistry or physics behind their breakthroughs, modern machine-learning engineers can achieve powerful results but lack the underlying science to explain them.

Every failing of an AI system also presents a vulnerability that can be exploited. In some cases, attackers can poison the training data. In 2016, Microsoft created a chatbot called Tay and gave it a Twitter account. Other users began tweeting offensive messages at it, and within 24 hours, Tay had begun parroting their racist and anti-Semitic language. In that case, the source of the bad data was obvious. But not all data-poisoning attacks are so visible. Some can be buried within the training data in a way that is undetectable to humans but still manipulates the machine.

Even if the creators of a deep-learning system protect its data sources, the system can still be tricked using what are known as "adversarial examples," in which an attacker feeds the system an input that is carefully tailored to get the machine to make a mistake. A neural network classifying satellite images might be tricked into identifying a subtly altered picture of a hospital as a military airfield or vice versa. The change in the image can be so small that the picture looks normal to a human but still fools the AI. Adversarial examples can even be placed in physical objects. In one case, researchers created a plastic turtle with subtle swirls embedded in the shell that made an object identification system think it was a rifle. In another, researchers placed a handful of small white and black squares on a stop sign, causing a neural network to classify it as a 45-mile-per-hour speed-limit sign. To make matters worse, attackers can develop these kinds of deceptive images and objects without access to the training data or the underlying algorithm of the system they are trying to defeat, and researchers have struggled to find effective defenses against the threat. Unlike with cybersecurity vulnerabilities, which can often be patched once they are uncovered, there is no known way of fully inoculating algorithms against these attacks.

Governments already have plenty of experience testing military, cyber-, and surveillance tools, but no testing method can guarantee that complex systems won't experience glitches once they're out in the real world. The first time F-22 fighter jets crossed the International Date Line, their computers crashed and the aircraft were nearly stranded over the Pacific Ocean.

Testing AI systems often takes even more time and money than testing traditional military hardware. Their complexity, which makes them more capable, also creates more opportunities for unexpected glitches. Imagine that a government develops an AI system that can hack into its adversaries' computer networks while avoiding detection. The first government to deploy such a system would gain a huge advantage over its competitors. Worried that an adversary was developing a similar tool, the government might feel compelled to cut testing short and deploy the system early. This dynamic has already played out in other industries, such as self-driving cars. The consequences of accidents caused by national security AI tools could be far worse.

AI wouldn't be the first case of governments relying on a powerful but unsafe technology. That's exactly what happened with computers, which play critical roles in everything from trading stocks to guiding missiles even though they suffer from enormous vulnerabilities. In 2018, investigators at the U.S. Government Accountability Office found that U.S. weapons systems were riddled with cybersecurity loopholes that could be exploited with "relatively simple tools and techniques." Even worse, Defense Department program managers didn't know about the problems and dismissed the GAO's findings, claiming the tests were not realistic. Computer security vulnerabilities aren't limited to government-run systems. Company after company has suffered major data breaches. Digital security is already too often an afterthought. A world of widespread, unprotected AI systems isn't just a possibility; it's the default setting.

SAFETY FIRST

Urgent threats require urgent responses. One of the most important ways policymakers can deal with the dangers of AI is to boost funding for AI safety research. Companies are spending billions of dollars finding commercial applications for AI, but the U.S. government can play a valuable role in funding basic AI research, as it has since the field's early days. The AI Next initiative, a program run by the Defense Advanced Research Projects Agency that is set to spend $2 billion over the next five years, is aimed at tackling many of the limitations of narrow AI systems. Expanding on this effort, the White House should increase the funding going to AI safety research as part of its new American AI Initiative, and it should ask Congress for additional money for R & D and safety research.

When it comes to applying AI to national security, government agencies will have to reconsider their traditional approaches to testing new systems. Verifying that a system meets its design specifications isn't enough. Testers also need to ensure that it will continue to function properly in the real world when an adversary is trying to defeat it. In some cases, they can use computer simulations to tease out bugs, as manufacturers now do for autonomous cars. On top of that, the Departments of Defense and Homeland Security and the intelligence community should create red teams—groups that act as attackers to test a system's defenses—to ferret out vulnerabilities in AI systems so that developers can fix them before the systems go live.

Government officials should also tone down their rhetoric about an AI arms race, since such talk could easily become self-fulfilling. At a conference in 2018, Michael Griffin, the chief Pentagon official for research and engineering, said, "There might be an artificial intelligence arms race, but we're not yet in it." Militaries are certainly going to adopt AI, but Griffin's statement was missing any concern for—or even awareness of—the risks that come with it. Talk of an arms race encourages adversaries to cut corners on safety. Government officials should emphasize not only the value of AI but also the importance of guaranteeing reliability and security.

Finally, the United States should look for ways to work with other countries, even hostile ones, to ensure AI safety. International cooperation on new technologies has a mixed record, but countries have sometimes succeeded in working together to avoid mutual harm. During the Cold War, the United States and the Soviet Union worked together to limit certain types of delivery systems for nuclear warheads that both sides agreed were particularly destabilizing. The United States also encouraged other countries to adopt safety measures to prevent the unauthorized use of nuclear weapons. Today, the United States should work with both allies and adversaries to boost international funding on AI safety. It should also begin discussions with China and Russia over whether some applications of AI pose unacceptable risks of escalation or loss of control and what countries can do jointly to improve safety. The biggest danger for the United States in an AI race is not losing but creating a world in which no one wins.

In the nineteenth century, industrialization brought tremendous economic growth, but it also handed militaries the tank, the machine gun, and mustard gas. The invention of nuclear weapons posed an even more profound risk, one with which policymakers are still grappling. Computers revolutionized how people work, learn, and communicate, but they also made previously isolated systems vulnerable to cyberattacks.

AI will match those changes. Most of its effects will be positive. It will boost economic growth, help diagnose and cure diseases, reduce automobile accidents, and improve people's daily lives in thousands of ways, large and small. Like any new technology, however, AI also has a darker side. Facing up to the risks now is the only way to make sure humanity realizes the promise of AI, not the peril.

The Population Bust

Demographic Decline and the End of Capitalism as We Know It

Zachary Karabell

The Human Tide: How Population Shaped the Modern World
BY PAUL MORLAND. PublicAffairs, 2019, 352 pp.

Empty Planet: The Shock of Global Population Decline
BY DARRELL BRICKER AND JOHN IBBITSON. Crown, 2019, 304 pp.

SEPTEMBER/OCTOBER 2019

For most of human history, the world's population grew so slowly that for most people alive, it would have felt static. Between the year 1 and 1700, the human population went from about 200 million to about 600 million; by 1800, it had barely hit one billion. Then, the population exploded, first in the United Kingdom and the United States, next in much of the rest of Europe, and eventually in Asia. By the late 1920s, it had hit two billion. It reached three billion around 1960 and then four billion around 1975. It has nearly doubled since then. There are now some 7.6 billion people living on the planet.

Just as much of the world has come to see rapid population growth as normal and expected, the trends are shifting again, this time into reverse. Most parts of the world are witnessing sharp and sudden contractions in either birthrates or absolute population. The only thing preventing the

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population in many countries from shrinking more quickly is that death rates are also falling, because people everywhere are living longer. These oscillations are not easy for any society to manage. “Rapid population acceleration and deceleration send shockwaves around the world wherever they occur and have shaped history in ways that are rarely appreciated,” the demographer Paul Morland writes in *The Human Tide*, his new history of demographics. Morland does not quite believe that “demography is destiny,” as the old adage mistakenly attributed to the French philosopher Auguste Comte would have it. Nor do Darrell Bricker and John Ibbitson, the authors of *Empty Planet*, a new book on the rapidly shifting demographics of the twenty-first century. But demographics are clearly part of destiny. If their role first in the rise of the West and now in the rise of the rest has been underappreciated, the potential consequences of plateauing and then shrinking populations in the decades ahead are almost wholly ignored.

The mismatch between expectations of a rapidly growing global population (and all the attendant effects on climate, capitalism, and geopolitics) and the reality of both slowing growth rates and absolute contraction is so great that it will pose a considerable threat in the decades ahead. Governments worldwide have evolved to meet the challenge of managing more people, not fewer and not older. Capitalism as a system is particularly vulnerable to a world of less population expansion; a significant portion of the economic growth that has driven capitalism over the past several centuries may have been simply a derivative of more people and younger people consuming more stuff. If the world ahead has fewer people, will there be any real economic growth? We are not only unprepared to answer that question; we are not even starting to ask it.

BOMB OR BUST?

At the heart of *The Human Tide* and *Empty Planet*, as well as demography in general, is the odd yet compelling work of the eighteenth-century British scholar Thomas Malthus. Malthus’ 1798 *Essay on the Principle of Population* argued that growing numbers of people were a looming threat to social and political stability. He was convinced that humans were destined to produce more people than the world could feed, dooming most of society to suffer from food scarcity while the very rich made sure their needs were met. In Malthus’ dire view, that would lead to starvation, privation, and war, which would eventually lead to population contraction, and then the depressing cycle would begin again.

Yet just as Malthus reached his conclusions, the world changed. Increased crop yields, improvements in sanitation, and accelerated urbanization led not to an endless cycle of impoverishment and contraction but to an explosion of global population in the nineteenth century. Morland provides a rigorous and detailed account of how, in the nineteenth century, global population reached its breakout from millennia of prior human history, during which the population had been stagnant, contracting, or inching forward. He starts with the observation that the population begins to grow rapidly when infant mortality declines. Eventually, fertility falls in response to lower infant mortality—but there is a considerable lag, which explains why societies in the modern world can experience such sharp and extreme surges in population. In other words, while infant mortality is high, women tend to give birth to many children, expecting at least some of them to die before reaching maturity. When infant mortality begins to drop, it takes several generations before fertility does, too. So a woman who gives birth to six children suddenly has six children who survive to adulthood instead of, say, three. Her daughters might also have six children each before the next generation of women adjusts, deciding to have smaller families.

The burgeoning of global population in the past two centuries followed almost precisely the patterns of industrialization, modernization, and, crucially, urbanization. It started in the United Kingdom at the end of the nineteenth century (hence the concerns of Malthus), before spreading to the United States and then France and Germany. The trend next hit Japan, India, and China and made its way to Latin America. It finally arrived in sub-Saharan Africa, which has seen its population surge thanks to improvements in medicine and sanitation but has not yet enjoyed the full fruits of industrialization and a rapidly growing middle class.

With the population explosion came a new wave of Malthusian fears, epitomized by the 1968 book *The Population Bomb,* by Paul Ehrlich, a biologist at Stanford University. Ehrlich argued that plummeting death rates had created an untenable situation of too many people who could not be fed or housed. "The battle to feed all of humanity is over," he wrote. "In the 1970's the world will undergo famines—hundreds of millions of people are going to starve to death in spite of any crash programs embarked on now."

Ehrlich's prophecy, of course, proved wrong, for reasons that Bricker and Ibbitson elegantly chart in *Empty Planet.* The green revolution, a series of innovations in agriculture that began in the early twentieth century, accelerated such that crop yields expanded to meet humankind's needs. Moreover, governments around the world managed to remediate the worst effects of pollution and environmental degradation, at least in terms of daily living standards in multiple megacities, such as Beijing, Cairo, Mexico City, and New Delhi. These cities face acute challenges related to depleted water tables and industrial pollution, but there has been no crisis akin to what was anticipated.

Yet visions of dystopic population bombs remain deeply entrenched, including at the center of global population calculations: in the forecasts routinely issued by the United Nations. Today, the UN predicts that global population will reach nearly ten billion by 2050. Judging from the evidence presented in Morland's and Bricker and Ibbitson's books, it seems likely that this estimate is too high, perhaps substantially. It's not that anyone is purposely inflating the numbers. Governmental and international statistical agencies do not turn on a dime; they use formulas and assumptions that took years to formalize and will take years to alter. Until very recently, the population assumptions built into most models accurately reflected what was happening. But the sudden ebb of both birthrates and absolute population growth has happened too quickly for the models to adjust in real time. As Bricker and Ibbitson explain, "The UN is employing a faulty model based on assumptions that worked in the past but that may not apply in the future."

Population expectations aren't merely of academic interest; they are a key element in how most societies and analysts think about the future of war and conflict. More acutely, they drive fears about climate change and environmental stability—especially as an emerging middle class numbering in the billions demands electricity, food, and all the other accoutrements of modern life and therefore produces more emissions and places greater strain on farms with nutrient-depleted soil and evaporating aquifers. Combined with warming-induced droughts, storms, and shifting weather patterns, these trends would appear to line up for some truly bad times ahead.

Except, argue Bricker and Ibbitson, those numbers and all the doomsday scenarios associated with them are likely wrong. As they write, "We do not face the challenge of a population bomb but a population bust—a relentless, generation-after-generation culling of the human herd." Already, the signs of the coming bust are clear, at least according to the data that Bricker and Ibbitson marshal. Almost every country in Europe now has a fertility rate below the 2.1 births per woman that is needed to maintain a static population. The UN notes that in some European countries, the birthrate has increased in the past decade. But that has merely pushed the overall European birthrate up from 1.5 to 1.6, which means that the population of Europe will still grow older in the coming decades and contract as new births fail to compensate for deaths. That trend is well under way in Japan, whose population has already crested, and in Russia, where the same trends, plus high mortality rates for men, have led to a decline in the population.

What is striking is that the population bust is going global almost as quickly as the population boom did in the twentieth century. Fertility rates in China and India, which together account for nearly 40 percent of the world's people, are now at or below replacement levels. So, too, are fertility rates in other populous countries, such as Brazil, Malaysia, Mexico, and Thailand. Sub-Saharan Africa remains an outlier in terms of demographics, as do some countries in the Middle East and South Asia, such as Pakistan, but in those places, as well, it is only a matter of time before they catch up, given that more women are becoming educated, more children are surviving their early years, and more people are moving to cities.

Morland, who, unlike Bricker and Ibbitson, is a demographer by training, is skeptical that humanity is on the cusp of a tectonic reversal in population trends. He agrees that the trends have changed, but he is less prone to the blanket certainty of Bricker and Ibbitson. This is not because he uses different data; he simply recognizes that population expectations have frequently been confounded in the past and that certainty about future trends is unreasonable. Morland rightly points out that even if fertility rates fall dramatically in Africa, there will be decades left of today's youth bulge there. Because he is more measured in his assessment of the ambiguities and uncertainties in the data, Morland tends to be more circumspect in drawing dramatic conclusions. He suggests, for instance, that China's population will peak short of 1.5 billion in 2030 and then stagnate, with an aging population and gradual absolute decline thereafter. Bricker and Ibbitson, on the other hand, warn that China's fertility rate, already in free fall, could actually get much worse based on the example of Japan, which would lead China to shrink to less than 700 million people in the second half of the century. Morland does agree with Bricker and Ibbitson on one important point: when it comes to global population, the only paradigm that anyone has known for two centuries is about to change.

GREAT EXPECTATIONS

The implications of the coming population bust occupy a large portion of Bricker and Ibbitson's book, and they should occupy a much larger portion of the collective debate about the future and how to prepare for it. The underlying drivers of capitalism, the sense that resource competition and scarcity determine the nature of international relations and domestic tensions, and the fear that climate change and environmental degradation are almost at a doomsday point—all have been shaped by the persistently ballooning population of the past two centuries. If the human population is about to decline as quickly as it increased, then all those systems and assumptions are in jeopardy.

Both books note that the demographic collapse could be a bright spot for climate change. Given that carbon emissions are a direct result of more people needing and demanding more stuff—from food and water to cars and entertainment—then it would follow that fewer people would need and demand less. What's more, larger proportions of the planet will be aging, and the experiences of Japan and the United States are showing that people consume less as they age. A smaller, older population spells some relief from the immense environmental strain of so many people living on one finite globe.

That is the plus side of the demographic deflation. Whether the concomitant greening of the world will happen quickly enough to offset the worst-case climate scenarios is an open question—although current trends suggest that if humanity can get through the next 20 to 30 years without irreversibly damaging the ecosystem, the second half of the twenty-first century might be considerably brighter than most now assume. The downside is that a sudden population contraction will place substantial strain on the global economic system. Capitalism is, essentially, a system that maximizes more—more output, more goods, and more services. That makes sense, given that it evolved coincidentally with a population surge. The success of capitalism in providing more to more people is undeniable, as are its evident defects in providing every individual with enough. If global population stops expanding and then contracts, capitalism—a system implicitly predicated on ever-burgeoning numbers of people—will likely not be able to thrive in its current form. An aging population will consume more of certain goods, such as health care, but on the whole aging and then decreasing populations will consume less. So much of consumption occurs early in life, as people have children and buy homes, cars, and white goods. That is true not just in the more affluent parts of the world but also in any country that is seeing a middle-class surge.

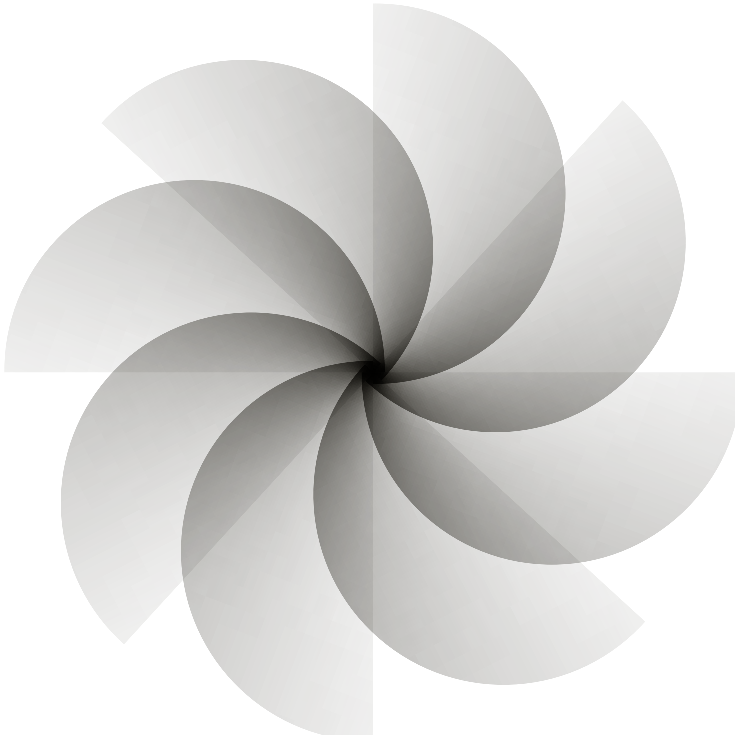
But what happens when these trends halt or reverse? Think about the future cost of capital and assumptions of inflation. No capitalist economic system operates on the presumption that there will be zero or negative growth. No one deploys investment capital or loans expecting less tomorrow than today. But in a world of graying and shrinking populations, that is the most likely scenario, as Japan's aging, graying, and shrinking absolute population now demonstrates. A world of zero to negative population growth is likely to be a world of zero to negative economic growth, because fewer and older people consume less. There is nothing inherently problematic about that, except for the fact that it will completely upend existing financial and economic systems. The future world may be one of enough food and abundant material goods relative to the population; it may also be one in which capitalism at best frays and at worst breaks down completely.

The global financial system is already exceedingly fragile, as evidenced by the 2008 financial crisis. A world with negative economic growth, industrial capacity in excess of what is needed, and trillions of dollars expecting returns when none is forthcoming could spell a series of financial crises. It could even spell the death of capitalism as we know it. As growth grinds to a halt, people may well start demanding a new and different economic system. Add in the effects of automation and artificial intelligence, which are already making millions of jobs redundant, and the result is likely a future in which capitalism is increasingly passé.

If population contraction were acknowledged as the most likely future, one could imagine policies that might preserve and even invigorate the basic contours of capitalism by setting much lower expectations of future returns and focusing society on reducing costs (which technology is already doing) rather than maximizing output. But those policies would likely be met in the short term by furious opposition from business interests, policymakers, and governments, all of whom would claim that such attitudes are defeatist and could spell an end not just to growth but to prosperity and high standards of living, too. In the absence of such policies, the danger of the coming shift will be compounded by a complete failure to plan for it.

Different countries will reach the breaking point at different times. Right now, the demographic deflation is happening in rich societies that are able to bear the costs of slower or negative growth using the accumulated store of wealth that has been built up over generations. Some societies, such as the United States and Canada, are able to temporarily offset declining population with immigration, although soon, there won't be enough immigrants left. As for the billions of people in the developing world, the hope is that they become rich before they become old. The alternative is not likely to be pretty: without sufficient per capita affluence, it will be extremely difficult for developing countries to support aging populations.

So the demographic future could end up being a glass half full, by ameliorating the worst effects of climate change and resource depletion, or a glass half empty, by ending capitalism as we know it. Either way, the reversal of population trends is a paradigm shift of the first order and one that is almost completely unrecognized. We are vaguely prepared for a world of more people; we are utterly unprepared for a world of fewer. That is our future, and we are heading there fast.



ADAPTATION

The Future of the Liberal Order Is Conservative

A Strategy to Save the System

Jennifer Lind and William C. Wohlforth

MARCH/APRIL 2019

The liberal world order is in peril. Seventy-five years after the United States helped found it, this global system of alliances, institutions, and norms is under attack like never before. From within, the order is contending with growing populism, nationalism, and authoritarianism. Externally, it faces mounting pressure from a pugnacious Russia and a rising China. At stake is the survival of not just the order itself but also the unprecedented economic prosperity and peace it has nurtured.

The order is clearly worth saving, but the question is how. Keep calm and carry on, some of its defenders argue; today's difficulties will pass, and the order is resilient enough to survive them. Others appreciate the gravity of the crisis but insist that the best response is to vigorously reaffirm the order's virtues and confront its external challengers. Bold Churchillian moves—sending more American troops to Syria, offering Ukraine more help to kick out pro-Russian forces—would help make the liberal international order great again. Only by doubling down on the norms and institutions that made the liberal world order so successful, they say, can that order be saved.

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Such defenders of the order tend to portray the challenge as a struggle between liberal countries trying to sustain the status quo and dissatisfied authoritarians seeking to revise it. What they miss, however, is that for the past 25 years, the international order crafted by and for liberal states has itself been profoundly revisionist, aggressively exporting democracy and expanding in both depth and breadth. The scale of the current problems means that more of the same is not viable; the best response is to make the liberal order more conservative. Instead of expanding it to new places and new domains, the United States and its partners should consolidate the gains the order has reaped.

The debate over U.S. grand strategy has traditionally been portrayed as a choice between retrenchment and ambitious expansionism. Conservatism offers a third way: it is a prudent option that seeks to preserve what has been won and minimize the chances that more will be lost. From a conservative vantage point, the United States' other choices—at one extreme, undoing long-standing alliances and institutions or, at the other extreme, further extending American power and spreading American values—represent dangerous experiments. This is especially so in an era when great-power politics has returned and the relative might of the countries upholding the order has shrunk.

It is time for Washington and its liberal allies to gird themselves for a prolonged period of competitive coexistence with illiberal great powers, time to shore up existing alliances rather than add new ones, and time to get out of the democracy-promotion business. Supporters of the order may protest this shift, deeming it capitulation. On the contrary, conservatism is the best way to preserve the global position of the United States and its allies—and save the order they built.

A REVISIONIST ORDER

Since World War II, the United States has pursued its interests in part by creating and maintaining the web of institutions, norms, and rules that make up the U.S.-led liberal order. This order is not a myth, as some allege, but a living, breathing framework that shapes much of international politics. It is U.S.-led because it is built on a foundation of American hegemony: the United States provides security guarantees to its allies in order to restrain regional competition, and the U.S. military ensures an open global commons so that trade can flow uninterrupted. It is liberal because the governments that support it have generally tried to infuse it with liberal norms about economics, human rights, and politics. And it is an order—something bigger than Washington and its policies—because the United States has partnered with a posse of like-minded and influential countries and because its rules and norms have gradually assumed a degree of independent influence.

This order has expanded over time. In the years after World War II, it grew both geographically and functionally, successfully integrating two rising powers, West Germany and Japan. Supporting liberalism and interweaving their security policies with the United States', these countries accepted the order, acting as "responsible stakeholders" well before the term was optimistically applied to China. As the Cold War played out, NATO added not just West Germany but also Greece, Turkey, and Spain. The European Economic Community (the EU's predecessor) doubled its membership. And core economic institutions, such as the General Agreement on Tariffs and Trade (GATT) and the International Monetary Fund (IMF), broadened their remits.

After the Cold War, the liberal order expanded dramatically. With the Soviet Union gone and China still weak, the states at the core of the order enjoyed a commanding global position, and they used it to expand their system. In the Asia-Pacific, the United States strengthened its security commitments to Australia, Japan, the Philippines, South Korea, and other partners. In Europe, NATO and the EU took on more and more members, widened and deepened cooperation among their members, and began intervening far beyond Europe's borders. The EU developed "neighborhood policies" to enhance security, prosperity, and liberal practices across Eurasia, the Middle East, and North Africa; NATO launched missions in Afghanistan, the Gulf of Aden, and Libya.

For liberals, this is simply what progress looks like. And to be sure, much of the order's dynamism—say, the GATT's transformation into the more permanent and institutional World Trade Organization, or the UN's increasingly ambitious peacekeeping agenda—met with broad support among liberal and authoritarian countries alike. But some key additions to the order clearly constituted revisionism by liberal countries, which, tellingly, were the only states that wanted them.

Most controversial were the changes that challenged the principle of sovereignty. Under the banner of "the responsibility to protect," governments, nongovernmental organizations, and activists began pushing a major strengthening of international law with the goal of holding states accountable for how they treated their own people. Potent security alliances such as NATO and powerful economic institutions such as the IMF joined the game, too, adding their muscle to the campaign to spread liberal conceptions of human rights, freedom of information, markets, and politics.

Democracy promotion assumed a newly prominent role in U.S. grand strategy, with President Bill Clinton speaking of "democratic enlargement" and President George W. Bush championing his "freedom agenda." The United States and its allies increasingly funded nongovernmental organizations to build civil society and spread democracy around the world, blurring the line between public and private efforts. U.S. taxpayers, for example, have footed the bill for the National Endowment for Democracy, a nonprofit that promotes democracy and human rights in China, Russia, and elsewhere. Meddling in other states' domestic affairs is old hat, but what was new was the overt and institutionalized nature of these activities, a sign of the order's post–Cold War mojo. As Allen Weinstein, the co-founder of the National Endowment for Democracy, admitted in a 1991 interview, "A lot of what we do today was done covertly 25 years ago by the CIA."

As never before, state power, legal norms, and public-private partnerships were harnessed together to expand the order's—and Washington's—geopolitical reach. Perhaps the clearest example of these heightened ambitions came in the Balkans, where, in 1999, NATO harnessed its military power to the emerging "responsibility to protect" norm and coerced Yugoslav President Slobodan Milosevic to acquiesce to Kosovo's de facto independence—after which the United States and its allies openly joined forces with local civil society groups to topple him from power. It was a remarkably bold move. In just a few months, the United States and its allies transformed the politics of an entire region that had traditionally been considered peripheral, priming it for incorporation into the security and economic structures dominated by the liberal West.

To say that all of this represented revisionism is not to equate it morally with, say, Beijing's militarization in the South China Sea or Moscow's invasion of Ukraine and electoral meddling in the United States and Europe. Rather, the point is that the order's horizons have expanded dramatically, with state power, new legal norms, overt and covert actions, and public-private partnerships together stretching the order wider and pushing it deeper. No country these days is consistently interested in maintaining the status quo; we are all revisionists now. Revisionism undertaken by illiberal states is often seen as mere power grabbing, but revisionism undertaken by liberal states has also resulted in geopolitical rewards: expanded alliances, increased influence, and more perquisites for the chief sponsors of the order, the United States above all.

A WHOLE NEW WORLD

There are appropriate times to expand, but today is not one of them. Although the liberal order is still backed by a powerful coalition of states, that coalition's margin of superiority has narrowed markedly. In 1995, the United States and its major allies produced some 60 percent of global output (in terms of purchasing power parity); now, that figure stands at 40 percent. Back then, they were responsible for 80 percent of global defense expenditures; today, they account for just 52 percent. It is becoming more difficult to maintain the order, let alone expand it. All the while, the order is suffering from an internal crisis of legitimacy that is already proving to be a constraint, as war-weary Americans, Euroskeptical Britons, and others across the West have taken to the polls to decry so-called globalist elites.

The order's illiberal challengers, meanwhile, have gotten savvier about acting on their long-held dissatisfaction. China and Russia have insulated themselves from external influences by manipulating information, controlling the media, and deploying new information-age techniques to monitor their populations and keep them docile. They have modernized their militaries and embraced clever asymmetric strategies to put the order's defenders on the back foot. The result is that the United States and its allies not only command a slimmer power advantage relative to in the halcyon 1990s but also face a tougher task in sustaining the order.

One might argue that the order should neutralize these challengers by bringing them in. Indeed, such was the motivation behind the U.S. strategy of engaging a rising China. But even though illiberal countries can participate productively in many aspects of the order, they can never be true insiders. Their statist approach to economics and politics makes it impossible for them to follow Germany's and Japan's path and accept any order that is U.S.-led or liberal. They see U.S.-dominated security arrangements as potential threats directed at them. And they have no interest in making concessions on democracy and human rights, since doing so would undermine vital tools of their authoritarian control. Nor do they wish to embrace liberal economic principles, which run afoul of the (often corrupt) role of the state in their economies.

Given their fundamental aversion to the core precepts of the liberal order, it's no wonder that illiberal powers have invested resources in creating alternative institutions reflecting their own statist principles—bodies such as the Shanghai Cooperation Organization, the New Development Bank, the Eurasian Economic Union, and the Asian Infrastructure Investment Bank. There was never a chance that a powerful, undemocratic Russia was going to join NATO, just as there was never a chance that China was going to be satisfied with U.S. military dominance in Asia. U.S. security commitments are directed against these very states. Washington and its allies buy into rules and values that these countries see as threatening. As long as the security commitments remain in place and the expansionist project continues, illiberal states will never fully integrate into the order.

Perhaps, one might argue, the order's authoritarian adversaries are paper tigers. In that case, the order has no reason to adopt a conservative stance; all it has to do is wait for these fragile governments to meet their inevitable demise. The problem with this bet is that it lay behind the liberal order's recent expansion, and yet over the past couple of decades, illiberal governments have only grown more authoritarian. Indeed, history has shown that great powers' domestic regimes rarely collapse in peacetime; the Soviet case was an anomaly. Cheering on political dissent within great powers from afar rarely succeeds, and by feeding narratives about their being encircled by threats, it often backfires.

The bottom line is that the external challenges to the order are happening now. Insisting on continued expansion while waiting for adversaries to decline, liberalize, and accept American leadership is likely to only exacerbate the problems afflicting the order. If that happens, the ability of the United States and its allies to sustain the order will decline faster than will the capability of their opponents to challenge it. And a failure to head off the rising costs of maintaining the order will only increase the domestic political pressure to abandon it altogether.

CONSERVATISM IN PRACTICE

A more conservative order would recognize that both internal and external circumstances have changed and would adjust accordingly. First and most important, this demands a shift to a status quo mindset in Washington and allied capitals. Despite U.S. President Donald Trump's occasional bluster about withdrawing from the world, his administration has retained all of the United States' existing commitments while adding ambitious new ones, notably an effort to radically scale back Iran's influence. And although the Obama administration was often accused of retrenchment, it, too, kept U.S. commitments in place and even tried its hand at regime change in Libya. Under a conservative approach, Washington would set aside such revisionist projects in order to concentrate its attention and resources on managing great-power rivalries.

As part of this, the United States should reduce the expectation that it will take on new allies. At the very least, any prospective ally should bring more capabilities than costs—a litmus test that has not been applied in recent years. Because the liberal order is in dire need of consolidation rather than expansion, it makes no sense to add small and weak states facing internal problems, especially if including them will exacerbate tensions among existing allies or, worse, with great-power rivals. In July 2018, NATO, with U.S. support, formally invited Macedonia to join the alliance (reviving a dispute with Greece over the name of the country), and the Trump administration has backed NATO membership for Bosnia, too (over the objections of the Serbian minority there). These straws may not break the camel's back, but the principle of limitless expansion might.

The case of Taiwan shows what a successful conservative approach looks like in practice, demonstrating how the United States can deter a rival great power from expanding while preventing a partner from provoking it. For decades, Washington has declared that the island's future should be resolved peacefully. Leaders on both sides of the Taiwan Strait have sometimes sought to overturn the status quo, as when Taiwanese President Chen Shui-bian began making pro-independence moves after he was elected in 2000. In response, U.S. President George W. Bush publicly warned Chen against unilaterally changing the status quo—a tough stance toward a longtime U.S. partner that helped keep the peace. This policy may be tested again, as demographic and economic trends strengthen the Taiwanese people's sense of national identity, as China grows more assertive, and as voices in the United States call for an unambiguously pro-Taiwan policy. But Washington should hold fast: for decades, conservatism has served it, and the region, well.

A conservative order would also entail drawing clearer lines between official efforts to promote democracy and those undertaken independently by civil society groups. By example and activism, vibrant civil societies in the United States and other liberal countries can do much to further democracy abroad. When governments get in the game, however, the results tend to backfire. As the political scientists Alexander Downes and Lindsey O'Rourke found in their comprehensive study, foreign-imposed regime change rarely leads to improved relations and frequently has the opposite effect. Liberal states should stand ready to help when a foreign government itself seeks assistance. But when one resists help, it is best to stay out. Meddling will only aggravate that government's concerns about violations of sovereignty and tar opposition forces with the charge of being foreign pawns.

Far from ceding power to illiberal great powers, a strategy of conservatism would directly address those external threats. Part of the reason those countries contest the order is that it exacerbates their insecurities. Restraining the order's expansionist impulses would reveal just how much of illiberal states' current revisionism is defensive in nature and how much is driven by sheer ambition. It could also stymie potential balancing against the order by illiberal states—China, Iran, Russia, and others. Although these revisionists have many divergent geopolitical and economic interests that currently limit their cooperation, the more their rulers worry that their grip on power is under threat from a liberal order, the more they will be inclined to overcome their differences and team up to check liberal powers. Reduce that fear, and there will be more opportunities for the liberal states to divide and rule, or at least divide and deter.

A less revisionist order could take the edge off of growing great-power rivalry in another way, by fully exploiting the advantages of a defensive, rather than offensive, stance. In general, preserving the status quo is cheaper, easier, and less dangerous than overturning it, as strategists from Sun-tzu to Thomas Schelling have argued. The order is deeply set, legitimate, and institutionalized. When it remains committed to the status quo, it is easy for its defenders to set redlines clarifying which challenges will be reversed and which won't, a strategy that can help contain adversaries and limit rivalry. Yet when all the players in the game are revisionists, setting unambiguous lines becomes much more difficult; what is acceptable today could become unacceptable tomorrow. Shifting to a more clearly status quo orientation would increase the chances that the United States and its allies could strike explicit or, more likely, implicit bargains with their rivals. Like any strategic approach, conservatism offers no guarantees and requires skilled statecraft. But by setting more realistic goals, it can dramatically increase the likelihood of success.

Greater conservatism would also help bolster the order against internal challenges. Although these will require domestic policies to address, because a less ambitious order would provoke less pushback from authoritarian states—and such pushback is costly to deal with—it would also be a more sustainable order. The higher the costs of maintaining the order, the more suspicion about it grows, and the harder it gets to maintain domestic support for it. Polls show that American voters like the country's existing alliances. What many balk at are commitments they see as costly adventures unrelated to core national security concerns. Continued expansion risks feeding those perceptions and generating a popular backlash that would throw the baby out with the bath water. Conservatism, by contrast, would minimize that risk.

Conservatism today need not mean conservatism forever. Any ambitious enterprise, whether it be a political movement or a corporation, undergoes phases of expansion and phases of consolidation. After a firm engages in acquisition, for example, the C-suite must ask whether the new management and workers are fully on board with the firm's culture and mission and must address any dislocations caused by the recent changes. Consolidation, then, should be seen as a prudent reaction to expansion. In the future, conditions may change such that the order can responsibly start looking for ways to grow, but that day has not yet arrived.

A TIME TO HEAL

One might wonder whether an order grounded in liberal principles can in fact practice restraint. In the mid-eighteenth century, the philosopher David Hume warned that the United Kingdom was prosecuting its wars against illiberal adversaries with "imprudent vehemence," contradicting the dictates of the balance of power and risking national bankruptcy. Perhaps such imprudence is part and parcel of the foundational ideology and domestic politics of liberal powers. As the political scientist John Mearsheimer has put it, "Liberal states have a crusader mentality hardwired into them."

Indeed, the principles of liberalism apply to all individuals, not just those who happen to be citizens of a liberal country. On what basis, then, can a country committed to liberal ideals stand idly by when they are trampled abroad—especially when that country is powerful enough to do something about it? In the United States, leaders often try to square the circle by contending that spreading democracy actually serves the national interest, but the truth is that power and principle don't always go together.

Because liberal convictions are part of their identity, Americans often feel they should support those who rise up against tyranny. Perhaps in the abstract one can promise restraint, but when demonstrators take to Tahrir Square in Cairo, Maidan in Kiev, or Bolotnaya Square in Moscow, many Americans want their government to stand with those flying freedom's flag. And when countries want to join the order's key security and economic institutions, Americans want the United States to say yes, even when there is scant strategic sense in it. Political incentives encourage this impulse, since politicians in the United States know that they can score points by bashing any leader who sells out lovers of liberty.

There is evidence, however, that liberal countries can check their appetite for spreading virtue. Nineteenth-century British statesmen liked to think that liberal principles and imperial interests often coincided, but when the two clashed, they almost always chose realism over idealism—as when the United Kingdom backed the Ottoman Empire for reasons of realpolitik despite domestic pressure to take action on behalf of persecuted Christians in the empire. The United States in the twentieth century had idealistic presidents, such as Woodrow Wilson and Jimmy Carter, but it also had more pragmatic ones, such as Theodore Roosevelt and Richard Nixon.

The period of détente in U.S.-Soviet relations, which lasted throughout the 1970s, exemplifies the possibility of a liberal order going on the defensive. During this period, the West largely followed a live-and-let-live strategy informed by Secretary of State Henry Kissinger's controversial maxim to not hold détente hostage to improvements in Moscow's human rights record. Washington negotiated with Moscow on arms control and a range of other security issues and held frequent summits symbolizing its acceptance of the Soviet Union as a superpower equal. In the 1975 Helsinki Accords, aimed at reducing East-West tensions, the United States effectively accommodated itself to the reality of Soviet suzerainty in Eastern Europe.

The essence of the deal was that the United States would render unto the Soviets roughly a third of the world—while making it clear that they should not dare come after its two-thirds. To be sure, superpower competition never truly ceased, and in the 1980s, détente died out altogether. But while it was in place, the strategy worked to limit U.S.-Soviet rivalry and facilitate rapprochement with China. This gave the United States and its allies the breathing room they needed to get their own houses in order and patch up alliances torn apart by domestic upheavals, the Vietnam War, and wrangling over trade and monetary policy. What this history suggests is that today's liberal order, for a time at least, can be conservative.

Liberal countries can never be thoroughly status quo actors, for they foster relatively free economies and civil societies presided over by governments committed to giving those vibrant forces free rein. Left to their own devices, those forces will always be revisionist—such is the nature of liberalism. But that inherent revisionism need not prevent leaders of liberal states, responsible for dealing with the world as it is, from recognizing that conditions have changed and deciding to trim their sails and tack away from expansion. That is what those leaders must do now: to protect an order based on liberalism, they must embrace conservatism.

How Poverty Ends

The Many Paths to Progress—and Why They Might Not Continue

Abhijit V. Banerjee and Esther Duflo

JANUARY/FEBRUARY 2020

For all the worries today about the explosion of inequality in rich countries, the last few decades have been remarkably good for the world's poor. Between 1980 and 2016, the average income of the bottom 50 percent of earners nearly doubled, as this group captured 12 percent of the growth in global GDP. The number of those living on less than $1.90 a day—the World Bank's threshold for "extreme poverty"—has dropped by more than half since 1990, from nearly two billion to around 700 million. Never before in human history have so many people been lifted out of poverty so quickly.

There have also been massive improvements in quality of life, even for those who remain poor. Since 1990, the global maternal mortality rate has been cut in half. So has the infant mortality rate, saving the lives of more than 100 million children. Today, except in those places experiencing major social disruption, nearly all children, boys and girls alike, have access to primary education. Even deaths from

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HIV/AIDS, an epidemic that once seemed hopeless, peaked soon after the turn of the millennium and have been declining ever since.

A great deal of the credit for these gains can go to economic growth. In addition to increasing people's income, steadily expanding GDPS have allowed governments (and others) to spend more on schools, hospitals, medicines, and income transfers to the poor. Much of the decline in poverty happened in two large economies that have grown particularly fast, China and India. But now, as growth has begun to slow down in both countries, there are reasons to be anxious. Can China and India do anything to avoid stalling? And do these countries offer a sure recipe that other countries can imitate, so that they can lift millions of their people out of poverty?

Economists, ourselves included, have spent entire careers studying development and poverty, and the uncomfortable truth is that the field still doesn't have a good sense of why some economies expand and others don't. There is no clear formula for growth. If there is a common thread, it is that the fastest growth appears to come from reallocating poorly allocated resources—that is, putting capital and labor toward their most productive use. But eventually, the returns from that process diminish, at which point countries need to find a new strategy for combating poverty.

THE SEARCH FOR GROWTH

Although growth has been key to reducing poverty, "grow faster" or even "continue to grow fast" are more expressions of hope than actionable policy recommendations. During the 1980s and 1990s, economists spent a lot of time running cross-country growth regressions, a type of analysis aimed at predicting growth rates based on a number of variables. Researchers would plug in data—on education, investment, corruption, inequality, culture, distance to the sea, and so on—in an effort to discover which factors helped or hurt growth. The hope was to find a few levers that could be pulled to raise growth.

There were two problems with this search. First, as the economist William Easterly has shown, growth rates for the same country can change drastically from decade to decade without much apparent change in anything else. In the 1960s and 1970s, Brazil was a global front-runner in growth; starting around 1980, it essentially stopped growing for two decades (before growing again and then stopping again). In 1988, Robert Lucas, one of the founders of modern macroeconomics, published an article in which he wondered why India was such a laggard and wished it would become a fast grower, like Egypt or Indonesia. As fate would have it, India's economy was just beginning a 30-year period of fast growth, while Egypt's and Indonesia's were starting to fall behind. Bangladesh, widely derided as a basket case shortly after its founding in 1971, saw its economy grow at five percent or more for most years between 1990 and 2015, and in 2016, 2017, and 2018, Bangladesh's growth exceeded seven percent—making it among the 20 fastest-growing economies in the world. In all these cases, growth came or went without some obvious reason.

Second, at a more fundamental level, these efforts to discover what causes growth make little sense. Almost every variable for a given country is partly a product of something else. Take education, one factor positively correlated with growth. Education is partly a function of a government's effectiveness at running and funding schools. But a government that is good at doing that is probably good at other things, as well—say, building roads. If growth is higher in countries with better educational systems, should the schools that educate the workforce get credit, or the roads that make trade easier? Or is something else responsible? Further muddying the picture, it is likely that people feel more committed to educating their children when the economy is doing well—so perhaps growth causes education, and not just the other way around. Trying to tease out single factors that lead to growth is a fool's errand. So, by extension, is coming up with corresponding policy recommendations.

What, then, are policymakers left with? There are some things clearly worth avoiding: hyperinflation; extremely overvalued fixed exchange rates; communism in its Soviet, Maoist, or North Korean varieties; the kind of total government chokehold on private enterprise that India had in the 1970s, with state ownership of everything from shipyards to shoe factories. But this is not particularly helpful advice today, given that hardly anyone is reaching for such extreme options anymore.

What most developing countries want to know is not whether they should nationalize all private industry overnight but whether they should emulate China's economic model. Although China is very much a market economy, the country's approach to capitalism differs greatly from the classic Anglo-Saxon model, characterized by low taxes and few regulations, and even from its European variant, with a greater role for the state. In China, the state, at both the national and local levels, plays an outsize role in the allocation of land, capital, and even labor. Other economies in East Asia have also deviated from the traditional capitalist model and experienced decades of high growth; consider Japan, South Korea, and Taiwan, all places where the government initially pursued an active industrial policy.

All these economies achieved spectacular success after pursuing unconventional policies. The question is whether they did so because of their choices or in spite of them. Did East Asia just luck out, or is there a lesson to be learned from its success? The economies there were also devastated by World War II, so the fast growth might in part have been a function of mere recovery. Moreover, what elements of the Chinese experience are countries supposed to emulate? Should they start with Deng Xiaoping's China, a dirt-poor economy with comparatively excellent education and health care and a very flat income distribution? Or with the Cultural Revolution, an attempt to wipe out the advantages of the elites and place everyone on an even playing field? Or with the preceding 4,000 years of Chinese history? Those who herald the experience of the East Asian economies to prove the virtue of one approach or the other are dreaming: there is no way to prove any such thing.

There simply is no accepted recipe for how to make poor countries achieve permanently high growth. Even the experts seem to have accepted this. In 2006, the World Bank asked the economist Michael Spence to lead a commission on economic growth. In its final report, the group recognized that there are no general principles for growth and that no two instances of economic expansion are quite alike. Easterly described their efforts in less charitable terms: "After two years of work by the commission of 21 world leaders and experts, an 11-member working group, 300 academic experts, 12 workshops, 13 consultations, and a budget of $4m, the experts' answer to the question of how to attain high growth was roughly: we do not know, but trust experts to figure it out."

THE LOW-HANGING FRUIT

Economists did learn something, however, from the back-and-forth about the sources of growth. In particular, they came to understand that transitions are an important yet underemphasized part of the growth story. One of the central tenets of traditional growth theory was that transitions were unimportant, because market forces ensured that resources were smoothly and speedily delivered to their most productive use. The most fertile plots of land should be farmed most intensively. The best workers should end up at the most profitable companies. Investors should entrust their capital to the most promising entrepreneurs.

But this assumption is often false. In a given economy, productive and nonproductive firms coexist, and resources do not always flow to their best use. This is particularly true in developing countries, where many markets, such as those for credit, land, or labor, function poorly. The problem is often not so much that talent, technology, and capital are not available but that the economy does not appear to put them to their best use. Some companies have more employees than they need, while others are unable to hire. Some firms use the latest technology, while others never do. Some entrepreneurs with great ideas may not be able to finance them, while others who are not particularly talented continue operating. This is what economists call "misallocation."

Misallocation saps growth, which means that reallocation can improve it. In recent years, economists have tried to quantify just how much growth could come from moving resources to their best uses. Chang-Tai Hsieh and Peter Klenow, for example, found that merely reallocating factors within certain industries, while holding capital and labor constant, could increase productivity in China by 30–50 percent and in India by 40–60 percent. If reallocation took place across a broader swath of the economy, the payoff would be even larger.

In other words, it is possible to spur growth just by reallocating existing resources to more appropriate uses. If a country starts off with its resources very poorly used, as did China before Deng or India in its days of extreme dirigisme, then the first benefits of reform may come from simply harnessing so many poorly used resources. There are many ways to improve allocation, from the moves away from collectivized agriculture that China made under Deng to the efforts India made in the 1990s to speed the resolution of debt disputes and thus make credit markets more efficient.

But the flip side to this is that at a certain point, the gains start to diminish. Many developing economies are now reaching this point. They and the rest of the world will have to come to terms with an uncomfortable truth: the era of breathtaking growth is likely coming to an end.

Consider China's trajectory. By now, the country has gotten rid of its most blatant forms of misallocation. Wisely, it plowed back the gains from the resulting growth in new investment, and as output grew, it sold that output abroad, benefiting from the world's seemingly endless hunger for exports. But that strategy has largely run its course, too: now that China is the largest exporter in the world, it cannot possibly continue to grow its exports much faster than the world economy is growing.

China might still eventually catch up with U.S. output in per capita terms, but its slowing growth means that it will take a long time. If Chinese growth falls to five percent per year, which is not implausible, and stays there, which is perhaps optimistic, and if U.S. growth continues to hover around 1.5 percent, then it will take at least 35 years for China to catch up with the United States in terms of per capita income. In the meantime, it makes sense for Chinese authorities to accept that fast growth is temporary, as they appear to be doing. In 2014, Chinese President Xi Jinping spoke about adjusting to "the new normal" of slower growth. Many interpreted this to mean that although the days of double-digit annual growth were behind it, the Chinese economy would still expand at seven percent per year for the foreseeable future. But even that may be too optimistic. The International Monetary Fund projects that China's growth will fall to 5.5 percent by 2024.

A similar story is playing out in India. Beginning around 2002, the country's manufacturing sector saw sharp improvements in resource allocation. Plants swiftly upgraded their technology, and capital increasingly flowed to the best firms within each industry. Because the improvements appeared to be unrelated to any change in policy, some economists spoke of "India's mysterious manufacturing miracle." But it was no miracle—just a modest improvement from a dismal starting point. One can imagine various explanations for the upswing. Perhaps there was a generational shift, as control of companies passed from parents to their children, many of whom had been educated abroad and were often more ambitious and savvier about technology and world markets. Or perhaps it was the effect of the accumulation of modest profits, which eventually made it possible to pay for the shift to bigger and better plants. Regardless of the precise cause, India's economic rise is best understood as the result of correcting misallocation: the type of growth that can come from picking low-hanging fruit.

That kind of growth cannot go on forever. As the economy sheds its worst plants and firms, the space for further improvement naturally shrinks. Today, India seems to be facing the prospect of a steep deceleration. The International Monetary Fund, the Asian Development Bank, and the Organization for Economic Cooperation and Development have all downgraded their growth estimates for India for 2019–20 to around six percent. Others have suggested that India's economy may have already slowed: Arvind Subramanian, New Delhi's chief economic adviser from 2014 to 2018, has argued that official estimates have overstated the country's growth by as much as 2.5 percentage points in recent years. Growth in India could recover, but at some point, it will slow for good. Indeed, it is possible that India could get stuck in the dreaded "middle-income trap," whereby fast-growing economies start to stall. It would not be alone: according to the World Bank, of 101 middle-income economies in 1960, only 13 had become high income by 2008.

Unfortunately, just as economists don't know much about how to make growth happen, they know very little about why some countries, such as Mexico, get stuck in the middle-income trap and why some, such as South Korea, don't. One very real danger is that in trying to hold on to fast growth, countries facing sharply slowing growth will veer toward policies that hurt the poor now in the name of future growth. In a bid to preserve growth, many countries have interpreted the prescription to be business friendly as a license to enact all kinds of anti-poor, pro-rich policies, such as tax cuts for the rich and bailouts for corporations.

Such was the thinking in the United States under President Ronald Reagan and in the United Kingdom under Prime Minister Margaret Thatcher. If the experience of those two countries is any guide, however, asking the poor to tighten their belts in the hope that giveaways to the rich will eventually trickle down does nothing for growth and even less for the poor: in both, growth hardly picked up at all, but inequality skyrocketed. Globally, the one group that did even better than the poorest 50 percent between 1980 and 2016 was the top one percent—the rich in the already rich countries, plus an increasing number of superrich in the developing world—who captured an astounding 27 percent of total growth during that time. The 49 percent of people below them, which includes almost everybody in the United States and Europe, lost out, and their incomes stagnated throughout that period.

The explosion of inequality in economies that are no longer growing is bad news for future growth. The political backlash leads to the election of populist leaders touting miracle solutions that rarely work—and often lead to Venezuela-style disasters. In rich countries, the consequences are already visible, from the rising trade barriers in the United States to the mayhem of Brexit in the United Kingdom. Even the International Monetary Fund, once a bastion of growth-first orthodoxy, has come to recognize that sacrificing the poor to promote growth is bad policy. It now requires its country teams to take inequality into consideration when giving advice.

EYES ON THE PRIZE

Growth is likely to slow, at least in China and India, and there may be very little that anyone can do about it. It may well pick up in other countries, but no one can forecast where or why. The good news is that even in the absence of growth, there are ways to improve other indicators of progress. What policymakers need to remember is that GDP is a means to an end, not an end in itself. It is a useful means, no doubt, especially when it creates jobs or raises wages or increases budgets so that the government can redistribute more. But the ultimate goal remains improving quality of life, especially for those who are the worst off.

Quality of life means more than just consumption. Although better lives are indeed partly about being able to consume more, most human beings, even the very poor, care about more than that. They want to feel worthy and respected, keep their parents healthy, educate their children, have their voices heard, and follow their dreams. A higher GDP may help the poor achieve many of those things, but it is only one way of doing so, and it is not always the best one. In fact, quality of life varies enormously between countries with similar income levels: for example, Sri Lanka has more or less the same GDP per capita as Guatemala but far lower maternal, infant, and child mortality rates.

Such disparities should not be so surprising. Looking back, it is clear that many of the important successes of the last few decades were the result not of economic growth but of a direct focus on improving particular outcomes, even in countries that were and have remained very poor. The under-five mortality rate, for example, has fallen drastically across the world, even in some very poor countries whose economies have not grown particularly fast. Credit goes mostly to policymakers' focus on newborn care, vaccination, and malaria prevention. The same approach can and should be applied to any of the other factors that improve quality of life, be it education, skills, entrepreneurship, or health. The focus should be identifying the key problems and figuring out how to solve them.

This is patient work: spending money by itself does not necessarily deliver real education or good health. But unlike with growth, experts actually know how to make progress. One big advantage of focusing on clearly defined interventions is that these policies have measurable objectives and therefore can be directly evaluated. Researchers can experiment with them, abandon the ones that don't work, and improve the ones that do. This is what we have spent a good part of our careers doing and what hundreds of researchers and policymakers now routinely do with the help of such organizations as the Abdul Latif Jameel Poverty Action Lab, or J-PAL (the network we started at MIT), and Innovations for Poverty Action, a group founded by the economist Dean Karlan.

So although no one knows how to transform Kenya into South Korea, thanks to the work of Jessica Cohen and Pascaline Dupas, we do know, for example, that the massive distribution of free insecticide-treated bed nets is the most effective way to fight malaria. In a series of randomized trials, these researchers found that charging people for bed nets, which was once thought to make the nets more likely to be used, in fact decreased their use—evidence that eventually convinced major development organizations to abandon fees. Between 2014 and 2016, a total of 582 million insecticide-treated mosquito nets were delivered globally. Of these, 75 percent were given out through mass distribution campaigns of free bed nets, saving tens of millions of lives.

BEYOND GROWTH

The bottom line is that the true ingredients of persistent economic growth remain mysterious. But there is much that can be done to get rid of the most egregious sources of waste in poor countries' economies and of suffering among their people. Children who die of preventable diseases, schools where teachers do not show up, court systems that take forever to adjudicate cases—all no doubt undercut productivity and make life miserable. Fixes to such problems may not propel countries to permanently faster growth, but they could dramatically improve the welfare of their citizens.

Moreover, although no one knows when the growth locomotive will start in a given country, if and when it does, the poor will be more likely to hop on the train if they are in decent health, can read and write, and can think beyond their immediate circumstances. It may not be an accident that many of the winners of globalization have been communist countries that invested heavily in the human capital of their populations for ideological reasons (such as China and Vietnam) or places that pursued similar policies because they were threatened by communism (such as South Korea and Taiwan).

The best bet, therefore, for a developing country such as India is to attempt to raise living standards with the resources it already has: investing in education and health care, improving the functioning of the courts and banks, and building better roads and more livable cities. The same logic holds for policymakers in rich countries, who should invest directly in raising living standards in poorer countries. In the absence of a magic potion for development, the best way to profoundly transform millions of lives is not to try in vain to boost growth. It is to focus squarely on the thing that growth is supposed to improve: the well-being of the poor.

The Progressive Case Against Protectionism

How Trade and Immigration Help American Workers

Kimberly Clausing

NOVEMBER/DECEMBER 2019

It has almost become the new Washington consensus: decades of growing economic openness have hurt American workers, increased inequality, and gutted the middle class, and new restrictions on trade and immigration can work to reverse the damage. This view is a near reversal of the bipartisan consensus in favor of openness to the world that defined U.S. economic policy for decades. From the end of World War II on, under both Democratic and Republican control, Congress and the White House consistently favored free trade and relatively unrestrictive immigration policies. Candidates would make protectionist noises to appease various constituencies from time to time, but by and large, such rhetoric was confined to the margins. Almost never did it translate into actual policy.

Then came the 2016 presidential election. Donald Trump found a wide audience when he identified the chief enemy of the American worker as foreigners: trading partners that had struck disastrous trade agreements with Washington and immigrants who were taking jobs from native-born Americans. Everyday workers, Trump alleged,

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had been let down by a political class beholden to globalist economic ideas. In office, he has followed through on his nationalist agenda, withdrawing the United States from the Trans-Pacific Partnership (TPP) and routinely levying higher tariffs on trading partners. On immigration, he has implemented draconian policies against asylum seekers at the border and undocumented immigrants within the United States, as well as reducing quotas for legal immigrants and slowing down the processing of their applications.

But Trump has not been alone in his battle against economic openness. During the 2016 campaign, he was joined in his calls for protectionism by the Democratic primary candidate Bernie Sanders, who also blamed bad trade agreements for the plight of the American worker. Even the Democratic nominee, Hillary Clinton, who as secretary of state had championed the TPP, was forced by political necessity to abandon her earlier support for the agreement. Democrats have not, fortunately, mimicked Trump's anti-immigrant rhetoric, but when it comes to free trade, their support has often been lukewarm at best. While some Democrats have criticized Trump's counterproductive tariffs and disruptive trade wars, many of them hesitate when asked if they would repudiate the administration's trade policies, especially with respect to China. The political winds have shifted; now, it seems as if those who purport to sympathize with workers and stand up for the middle class must also question the merits of economic openness.

American workers have indeed been left behind, but open economic policies remain in their best interest: by reducing prices for consumers and companies, free trade helps workers more than it hurts them, and by creating jobs, offering complementary skills, and paying taxes, so do immigrants. Instead of hawking discredited nationalist economic ideas, politicians seeking to improve Americans' economic lot—especially progressives focused on reducing inequality and rebuilding the middle class—should be looking to domestic policy to address workers' needs, while also improving trade agreements and increasing immigration. That, not tariffs and walls, is what it will take to improve the plight of regular Americans.

THE TRADE BOOGEYMAN

Forty years of widening inequality and slow wage growth have left many Americans searching for answers. It may be tempting, then, to blame the United States' trading partners, many of which have experienced remarkable jumps in GDP and wages. China, perhaps the most spectacular example, saw its GDP per capita expand more than 22-fold from 1980 to 2018—in terms of 2010 U.S. dollars, from $350 to $7,750. Yet during the same period, U.S. GDP per capita grew from $28,600 to $54,500. That's less in relative terms—advanced economies usually grow more slowly than poor ones—but far more in absolute terms, and enough to significantly boost standards of living.

The problem, however, is that the gains have not been evenly shared. Adjusted for inflation, the average income of the bottom 50 percent of earners stayed nearly flat between 1980 and 2014. For those in the 50th to 90th percentiles, it grew by about 40 percent, lagging far behind expectations based on the experience of prior generations. Among the top one percent, meanwhile, average income has skyrocketed, ballooning by 205 percent over the same period. No wonder so many Americans are disappointed. The U.S. economy has failed to achieve its most basic aim: generating inclusive growth.

Trade does deserve some of the blame. When the United States buys goods from labor-abundant countries such as China and India, the demand for domestic labor falls. This appears to be what happened after the big surge in Chinese imports to the United States in the early years of this century. In a series of oft-cited research papers about "the China shock," the economists David Autor, David Dorn, and Gordon Hanson estimated that trade with China may have displaced the jobs of one million to two million Americans during this period. But it's important to keep those numbers in perspective. The U.S. economy is a dynamic place, with more than six million jobs lost and created every single quarter. Moreover, the share of Americans working in manufacturing has been declining steadily since 1950, even as growth in trade has waxed and waned—suggesting that factors other than trade are also at play.

Indeed, the U.S. economy has experienced other huge changes. Workers have lost bargaining power as unionization has declined (from 30 percent of the labor force in 1960 to less than 11 percent today) and large companies have steadily increased their market power (corporate profits as a share of GDP are 50 percent higher than they were in prior decades). Perhaps most important, technology has disrupted countless industries and lowered the demand for less educated labor. Most economists believe that technological change is a far more important factor than international trade in explaining the disappointing outcomes in American labor markets. Across all industries, the returns to education have increased, as less educated workers are disproportionately displaced by automation and computerization. And although manufacturing output continues to rise, manufacturing employment has fallen, as capital takes the place of labor and workers steadily move into the service industry. Yet in spite of all this evidence about the effects of technological change, politicians still point fingers at foreigners.

THE MYTH OF BAD DEALS

Critics of trade on both the left and the right contend that much of the problem has to do with bad trade deals that Washington has struck. On the left, the concern is that trade agreements have prioritized the interests of corporations over those of workers. On the right, it is that trade agreements have focused on the goal of international cooperation at the expense of U.S. interests. Trump has argued that U.S. trade deals have been tilted against the United States, contributing to the large trade deficit (meaning that the country imports more than it exports) and hollowing out the manufacturing sector. Sanders has echoed these concerns in the past, for example, claiming that the North American Free Trade Agreement (NAFTA) cost 43,000 jobs in Michigan and is behind Detroit's urban decline.

But just as trade in general is not to blame for the woes of the American worker, neither are the specifics of individual trade deals. In fact, the terms of trade agreements are typically highly favorable to the United States. That's because such deals usually require U.S. trading partners to lower their trade barriers far more than the United States must, since Washington tends to start off with much lower trade barriers. Such was certainly the case with Mexico, which, prior to NAFTA, had tariffs that averaged ten percent, compared with U.S. tariffs that averaged two percent.

This is not to say that trade agreements cannot be improved; useful tweaks could counter the excessive prioritization of intellectual property and reduce the reach of the mechanism by which investors and states resolve disputes, which critics allege gives companies too much power to fight health and environmental regulations. The TPP attempted to modernize NAFTA by placing a greater emphasis on the rights of workers and protecting the environment, and future agreements could go even further.

That said, it is easy to overstate the stakes here. Even ideal trade agreements would do little to address economic inequality and wage stagnation, because trade agreements themselves have little to do with those problems. Compared with other factors—the growth of trade in general, technological change, the decline of unionization, and so on—the details of trade agreements are nearly inconsequential. In fact, in the late 1990s, just after the adoption of NAFTA, the United States saw some of the strongest wage growth in four decades. As studies by researchers at the Congressional Research Service and the Peterson Institute for International Economics have shown, any disruption to the labor market caused by NAFTA was dwarfed by other considerations, especially technological change. And even when trade has cost jobs, as with the China shock, the effect did not depend on the particulars of any trade deal. There was and is no U.S. trade agreement with China, just the "most favored nation" status the country was granted when it joined the World Trade Organization in 2001—a status that it would have been hard to deny China, given the country's massive and growing economy. What really mattered was the mere fact of China's emergence as an economic powerhouse.

Critics of trade are also dead wrong when they argue that U.S. agreements have expanded the trade deficit. In fact, it's the result of borrowing. As economists have long understood, trade deficits emerge whenever a country spends more than it earns, and trade surpluses arise whenever a country earns more than it spends. Trade deficits and surpluses are simply the flip side of international borrowing and lending. Some countries, such as the United States, are borrowers. They consume more of others' goods than they send abroad, and they pay the difference in IOUs (which take the form of foreign investment in U.S. stocks, bonds, and real estate). Other countries, such as Germany, are lenders. They loan money abroad, accruing foreign assets, but receive less in imports than they send in exports. Which country is getting the better end of the deal? It is hard to say. U.S. households enjoy consuming more now, but they will eventually have to repay the debt; German households get returns on their investments abroad, but they forgo consumption in the present.

What this means is that if policymakers wish to reduce the U.S. trade deficit—and for now, it is not alarmingly large—they should reduce borrowing, which they can accomplish by shrinking the budget deficit. Instead, policymakers are moving in the opposite direction: the budget deficit has swelled in recent years, especially after the 2017 tax cuts. The new U.S. tariffs, meanwhile, have done nothing to improve the trade deficit. That came as no surprise to economists.

THE PRICE OF PROTECTIONISM

As easily debunked as these myths about trade are, they clearly have a powerful hold on policymakers. That is troubling not merely for what it reflects about the state of public discourse; it also has profound real-world implications. As they lambast trade, politicians are increasingly reaching for protectionist policies. Yet for American workers, such measures only add insult to injury, making their lives even more precarious. They do so in four distinct ways.

First and foremost, tariffs act as regressive taxes on consumption. Although the Trump administration likes to claim that foreigners pay the price of tariffs, in truth, the costs are passed along to consumers, who must pay more for the imports they buy. (By this past spring, the cost of the trade war that began in 2018 exceeded $400 per year for the average U.S. household.) Beyond that, tariffs fall disproportionately on the poor, both because the poor consume more of their income and because a higher share of their spending goes to heavily tariffed products, such as food and clothing. That is one reason why progressives in the early twentieth century, outraged by the inequality of the Gilded Age, pushed for moving away from tariffs and toward a federal income tax: it was widely recognized that tariffs largely spared the rich at the expense of the poor. Now, the reverse is happening. After having championed tax cuts that disproportionately benefited well-off Americans, the administration has tried to collect more revenue from regressive taxes on trade.

Second, tariffs and trade wars wreak havoc in U.S. labor markets by raising costs for American companies. Many large U.S. manufacturers are heavily dependent on imports. Boeing is a top U.S. exporter, but it is also a major importer, relying on crucial parts from around the world. General Motors now pays over $1 billion in annual tariffs, no doubt one factor behind the company's recent decision to shutter a plant in Ohio. When tariffs interrupt global supply chains, they disadvantage U.S. companies relative to foreign ones. If the goal is to make the United States a more internationally competitive place to locate jobs and direct investment, protectionism is a completely backward approach.

Third, trading partners do not sit on their hands when Washington raises tariffs on their products. Already, the Chinese, the Indians, and the Europeans have slapped serious retaliatory tariffs on U.S. goods. The victims of these measures include soybean farmers in Iowa and Minnesota (who have lost market share to Canada as Chinese buyers look elsewhere) and whiskey distillers in Kentucky and Tennessee (who have seen their exports to Europe and elsewhere plummet).

Finally, trade wars harm the global economy and U.S. trading partners, weakening Washington's network of alliances and jeopardizing the cooperation required to deal with pressing international problems. Recent meetings of the G-7 and the G-20 have been dominated by discussions aimed at diffusing trade conflicts, distracting precious diplomatic attention from climate change and nuclear nonproliferation. It is easy to take peace and international cooperation for granted, but they are prerequisites for the success of the U.S. economy in the decades ahead. The world is witnessing another rise in economic nationalism, which makes it easy for politicians and publics to embrace nationalist tendencies in other spheres. It is worth remembering that after the last era of globalization came to a halt, what followed was the Great Depression and World War II.

PEOPLE POWER

Protectionism is harmful for most American workers, but even more destructive are policies that make the United States less welcoming to immigrants. Setting aside the Trump administration's actions against refugees and the undocumented—a serious moral stain on the country—its efforts to limit immigration are also economically harmful.

Immigration has long been an enormous boon for the U.S. economy. Study after study has shown that it is good for economic growth, innovation, entrepreneurship, and job creation and that almost all economic classes within the United States benefit from it. Even though only 14 percent of the current U.S. population is foreign-born, immigrants create a disproportionate number of businesses. Fifty-five percent of the United States' $1 billion startups were founded or co-founded by immigrants, and more than 40 percent of the Fortune 500 companies were founded or co-founded by immigrants or their children. In recent decades, immigrants have accounted for more than 50 percent of the U.S.-affiliated academics who have won Nobel Prizes in scientific fields.

Immigrants also provide countless skills that complement those of native-born American workers. Highly educated foreigners with technological skills (such as computer programmers) make up for persistent shortages in the U.S. high-tech sector, and they complement native-born workers who have more cultural fluency or communication skills. Less skilled immigrants also fill labor shortages in areas such as agriculture and eldercare, where it is often difficult to find native-born workers willing to take jobs.

There is little evidence that immigration lowers the wages of most native-born workers, although there is some limited evidence that it may cut into the wages or hours of two groups: high school dropouts and prior waves of immigrants. In the case of high school dropouts, however, there are far better ways to help them (such as strengthening the educational system) than restricting immigration. As for prior waves of immigrants, given how substantial their economic gains from migration are—often, they earn large multiples of what they would have made back home—it's hard to justify their subsequent slower wage growth as a policy concern.

Immigrants have another economic benefit: they relieve demographic pressures on public budgets. In many rich countries, population growth has slowed to such an extent that the government's fiscal burden of caring for the elderly is enormous. In Japan, there are eight retired people for every ten workers; in Italy, there are five retirees for every ten workers. In the United States and Canada, although the budget pressures of an aging population remain, higher immigration levels contribute to a healthier ratio of three retirees for every ten workers. It also helps that recent immigrants have above-average fertility rates.

Many objections to immigration are cultural in nature, and these, too, have little grounding in reality. There is no evidence that immigrants, even undocumented ones, increase crime rates. Nor is there evidence that they refuse to integrate; in fact, they are assimilating faster than previous generations of immigrants did.

Given the many benefits from immigration, greater restrictions on it pose several threats to American workers. Already, the United States is beginning to lose foreign talent, which will hurt economic growth. For two years straight, the number of foreign students studying in U.S. universities has fallen, which is a particular shame since these students disproportionately study science, technology, engineering, and mathematics—areas in which the country faces large skills shortages. Encouraging such students to stay in the country after graduation would help the United States maintain its edge in innovation and promote economic growth. Instead, the Trump administration is discouraging foreign students with visa delays and a constant stream of nationalist rhetoric. Restricting immigration also harms the economy in other ways. It keeps out job creators and people whose skills complement those of native-born workers. And it increases the pressure on the budget, since restrictions will lead to a higher ratio of retirees to workers.

A more sensible immigration policy would make it easier for foreign students to stay in the United States after graduation, admit more immigrants through lotteries, accept more refugees, and provide a compassionate path to citizenship for undocumented immigrants currently living in the United States. Promoting U.S. interests means more immigration, not less.

WHAT WORKS

While reducing trade and immigration damages the prospects of American workers, free trade and increased immigration are not enough to ensure their prosperity. Indeed, despite decades of relative openness to trade and immigration, wages remain stagnant and inequality high. This has dire implications. As the economist Heather Boushey has argued, inequality undermines the U.S. economy by inhibiting competition and stifling the supply of talent and ideas. Unmet economic expectations also fuel voter discontent and political polarization, making it easy to blame outsiders and embrace counterproductive policies. For the sake of both the country's economy and its politics, economic growth needs to be much more inclusive.

To achieve that, the United States needs, above all, a tax system that ensures that economic prosperity lifts all boats. The Earned Income Tax Credit is a powerful tool in that regard. A credit targeted at lower-income workers that grows as those workers earn more, the EITC subsidizes their work, making each hour of it more lucrative. This credit should be expanded in size, it should reach further up the income distribution, and it should be made more generous for childless workers—changes that would particularly benefit those lower- and middle-class Americans who have seen their wages stagnate in recent decades. This policy would work well alongside an increase in the federal minimum wage, which would help combat the increased market power of employers relative to employees.

Beyond these steps, the federal government should set up a wage insurance program, which could make up some of the difference in lower wages for workers who have been displaced by foreign competition, technological change, domestic competition, natural disasters, or other forces. The federal government should also make greater investments in infrastructure, education, and research, all of which would benefit workers by increasing their productivity and thus their incomes. And it should strengthen the safety net, making improved health-care access and affordability a top priority.

None of this will be cheap, of course. To raise revenue, the U.S. tax system needs to be modernized. For corporations, Congress should curb international tax avoidance, closing loopholes and reforming minimum taxes so as to raise government revenues without chasing profits offshore. Congress should also strengthen individual and estate taxation, and it can do so without resorting to extreme rates. For the income tax, it can cap or end various deductions and preferences; for the estate tax, it can raise rates and reduce exceptions. And it can beef up enforcement of both. Congress should also enact a long-overdue carbon tax. Coupled with the other policies, a carbon tax could raise substantial revenue without harming poor and middle-class Americans, and it would fight climate change.

Finally, policymakers need to reckon with corporations' growing market power. They should modernize antitrust laws to put more emphasis on labor and modernize labor laws to suit the nature of work today, making sure that they adequately protect those in the service sector and those in the gig economy. Although large companies are often good for consumers, their market power narrows the share of the economy that ends up in the hands of workers. So the balance of power between companies and their workers needs to be recalibrated from both ends: policies should empower labor movements and combat companies' abuses of market power.

In the end, global markets have many wonderful benefits, but they need to be accompanied by strong domestic policies to ensure that the benefits of international trade (as well as technological change and other forces) are felt by all. Otherwise, economic discontent festers, empowering nationalist politicians who offer easy answers and peddle wrong-headed policies.

American workers have every reason to expect more from the economy, but restrictions on trade and immigration ultimately damage their interests. What those who care about reducing inequality and helping workers must realize, then, is that protectionism and nativism set back their cause. Not only do these policies have direct negative effects; they also distract from more effective policies that go straight to the problem at hand. On both sides of the aisle, it's time for politicians to stop vilifying outsiders and focus instead on policies that actually solve the very real problems afflicting so many Americans.

The Global Economy's Next Winners

What It Takes to Thrive in the Automation Age

Susan Lund, James Manyika, and Michael Spence

JULY/AUGUST 2019

The countries that once led the world toward economic openness are retreating into protectionism. Over the past two and a half years, the United States has abandoned the Trans-Pacific Partnership and imposed tariffs on steel, aluminum, and a wide range of Chinese goods. The United Kingdom is in the process of leaving the world's largest free-trade area. And rising nationalist sentiment is threatening to repeat these self-destructive acts elsewhere. The rich world is turning inward.

Its timing couldn't be worse. Even as critics of free trade gain the upper hand, globalization, wholly of its own accord, is transforming in rich countries' favor. Economic growth in the developing world is boosting demand for products made in the developed world. Trade in services is up. Companies are moving production closer to their customers so they can respond faster to changes in demand. Automation has slowed the relentless search for people willing to work for

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ever-lower wages. And the greater complexity of modern goods means that research, design, and maintenance are coming to matter more than production.

All these trends play to the strengths of developed countries, where skilled work forces, large quantities of capital, huge customer bases, and dense clusters of high-tech companies combine to power modern economies. Middle-income countries, such as China and Mexico, may also benefit from the next era of globalization (although changing trade and investment patterns may well leave sections of their work forces behind, just as they did in rich countries over the past two decades). The poorest countries, meanwhile, will see their chief advantage—cheap labor—grow less important.

Rich countries have chosen a spectacularly poor time to begin closing themselves off from trade, investment, and immigration. Rather than pulling up the drawbridge just as the benefits of globalization have begun to flow back toward the developed world, they should figure out how to take advantage of these changing patterns of globalization. Making sure that everyone, not just the already successful, benefits will be a daunting task. But the one way for rich countries to ensure that everyone loses is to turn away from the open world just as they are becoming the masters of it.

THAT WAS THEN . . .

In the 1990s and the early years of this century, growth in trade soared, especially in manufactured goods and natural resources. In 2001, China's entry into the World Trade Organization helped create a vast new manufacturing center for labor-intensive goods. The digital revolution allowed multinational companies to stretch their supply chains around the world. This spurt of globalization was fueled in part by trade in intermediate goods, such as raw materials and computer chips, which tripled in nominal value, from $2.5 trillion in 1995 to $7.5 trillion in 2007. Over that period, the total value of goods traded each year grew more than twice as fast as global GDP.

Then came the Great Recession. Global trade flows plummeted. Most analysts assumed that once the recovery gained steam, trade would come roaring back. They were wrong. From 2007 to 2017, exports declined from 28 percent to 23 percent of global gross output. The decline has been most pronounced in heavily traded goods with complex global value chains, such as computers, electronics, vehicles, and chemicals. A decade after the Great Recession, it is clear that trade is not returning to its former growth rates and patterns.

In part, that's because the global economy is rebalancing as China and other countries with emerging markets reach the next stage of development. After several decades of participating in global trade mainly as producers, emerging economies have become the world's major engines of demand. In 2016, for example, carmakers sold 40 percent more cars in China than they did in Europe. It is expected that by 2025, emerging markets will consume two-thirds of the world's manufactured goods and, by 2030, they will consume more than half of all goods.

China's growing demand means that more of what is made in China is being sold there. In 2007, China exported 55 percent of the consumer electronic goods and 37 percent of the textiles it produced; in 2017, those figures were 29 percent and 17 percent, respectively. Other emerging economies are following suit.

Developing countries also now rely less on intermediate imports. China first stepped onto the global trading scene in the 1990s by importing raw materials and parts and then assembling them into finished goods for export. But things have changed. In several sectors, including computers, electronics, vehicles, and machinery, China now produces far more sophisticated components, and a wider range of them, than it did two decades ago.

Trade is becoming more concentrated in specific regions, particularly within Europe and Asia. That is partly the result of greater domestic demand from emerging-market countries, but it is also being driven by the increased importance of speed. Proximity to consumers allows companies to respond faster to changing demand and new trends. Many companies are creating regional supply chains near each of their major markets. Adidas, for example, has built fully automated "Speedfactories" to produce new shoes in Germany and the United States rather than making them in its traditional locations in Indonesia. Zara has pioneered the "fast fashion" industry, refreshing its store merchandise twice a week. More than half of the company's thousands of suppliers are concentrated in Morocco, Portugal, Spain, and Turkey, where they can serve the European and U.S. markets. Zara can get new designs from the drawing board to a store in Manhattan in just 25 days.

The growth of new technologies, such as Internet connectivity and artificial intelligence (AI), are also changing trade patterns. From 2005 to 2017, the amount of data flowing across borders every second grew by a factor of 148. The availability of cheap, fast digital communication has boosted trade. E-commerce platforms allow buyers and sellers to find each other more easily. The Internet of Things—everyday products with Internet connections—lets companies track shipments around the world and monitor their supply chains.

Yet not all new technologies lead to more trade. Some, such as robotics, automation, AI, and 3-D printing, are changing the nature of trade flows but not boosting the overall amount of trade. Factories have used robots for decades, but only for rote tasks. Now, technological advances, such as AI-powered vision, language comprehension, and fine motor skills, allow manufacturing robots to perform tasks that were once out of their reach. They can assemble intricate components and are starting to work with delicate materials, such as textiles.

The rise of automation means companies don't have to worry as much about the cost of labor when choosing where to invest. In recent decades, companies have sought out low-paid workers, even if that meant building long, complex supply chains. That is no longer the dominant model: today, only 18 percent of the overall trade in goods involves exports from a low-wage country to a high-wage one. Other factors, such as access to resources, the speed at which firms can get their products to consumers, and the skills available in the work force, are more important. Companies are building fully automated factories to make textiles, clothes, shoes, and toys—the labor-intensive goods that gave China and other developing countries their start in global manufacturing. Exports from low-wage countries to high-wage countries fell from 55 percent of all exports of those kinds of cheap, labor-intensive goods in 2007 to 43 percent in 2017.

. . . THIS IS NOW

Trade in goods may be slowing relative to global economic growth, but trade in services is not. Since 2007, global trade in services has grown more than 60 percent faster than global trade in goods. Trade in some sectors, including telecommunications, information technology, business services, and intellectual property, is now growing two to three times as fast as trade in goods. In 2017, global trade in services totaled $5.1 trillion, still far less than the $17.3 trillion of goods traded globally. But those numbers understate the size of the services trade. National accounts do not, for example, separate out R & D, design, sales and marketing, and back-office services from the physical production of goods. Account for those elements, and services make up almost one-third of the value of traded manufactured goods. And companies have been turning more and more to foreign providers for those services. Although directly measured services are only 23 percent of total trade, services now account for 45 percent of the value added of traded goods.

Trade in services will take up an ever-greater share of the global economy as manufacturers and retailers introduce new ways of providing services, and not just goods, to consumers. Car and truck manufacturers, for example, are launching partnerships with companies that develop autonomous driving technologies, rent out vehicles, or provide ride-hailing services, as they anticipate a shift away from the traditional model of one-time vehicle purchases. Cloud computing has popularized pay-as-you-go and subscription models for storage and software, freeing users from making heavy investments in their own hardware. Ultrafast 5G wireless networks will give companies new ways to deliver services, such as surgery carried out by remotely operated robots and remote-control infrastructure maintenance made possible by virtual re-creations of the site in question.

For decades, manufacturing firms made physical things. Today, that is no longer a given. Some multinational companies, including Apple and many pharmaceutical manufacturers, have turned themselves into "virtual manufacturers"—companies that design, market, and distribute but rely on contractors to churn out the actual product.

That change reflects a broader shift toward intangible goods. Across many industries, R & D, marketing, distribution, and after-sales services now create more value than the physical goods, and they're growing faster. The economist Carol Corrado has shown that firms' annual investment in intangible assets, such as software, brands, and intellectual property, exceeds their investment in buildings, equipment, and other physical assets. In part, that's because products have become more complicated. Software now accounts for ten percent of the value of new cars, for example, and McKinsey expects that share to rise to 30 percent by 2030.

Goods still matter. Companies still have to move goods across borders, even when services have played a big role in their production. Tariffs on goods disrupt and distort these flows and lower productivity. That means they act as tariffs on the services involved, too. Tariffs on intermediate goods raise costs for manufacturers and result in a kind of double taxation for final exports. In short, the argument for free trade is just as strong today as it was three decades ago.

THE GOOD NEWS FOR THE WEST

Middle-class Americans and Europeans bore the brunt of the job losses caused by the last wave of globalization. With the notable exception of Germany, advanced economies have experienced steep falls in manufacturing employment over the past two decades. In the United States, the number of people working in manufacturing declined from an estimated 17.6 million in 1997 to a low of 11.5 million in 2010, before recovering modestly to about 12.8 million today.

Yet advanced economies stand to benefit from the next chapter of globalization. A future that hinges on innovation, digital technology, services, and proximity to consumers lines up neatly with their strengths: skilled work forces, strong protections for intellectual property, lucrative consumer markets, and leading high-tech firms and start-up ecosystems. Developed countries that take advantage of these favorable conditions will thrive. Those that don't, won't.

Manufacturing jobs are not yet flowing back to the rich world in vast numbers, but there are some encouraging signs. Several major companies, such as Adidas, Fast Radius, and Lincoln Electric, have opened U.S. facilities in recent years. Apple has announced a major expansion in Austin, Texas, and is planning new data centers and research facilities in other cities across the United States. Companies based in the developing world are also investing more in the United States and Europe.

The growth in trade in services is providing another boost for advanced economies. The United States, Europe, and other advanced economies together already run an annual surplus in trade in services of almost $480 billion, twice as high as a decade ago, demonstrating their competitive advantage in these industries. New technology will let companies remotely deliver more services, such as education and health care. Countries that already specialize in exporting services, such as France, Sweden, the United Kingdom, and the United States, are in a good position to capitalize on these trends.

Finally, as the developing world gets richer, it will buy more cars, computers, airplanes, and machinery from the developed world. Advanced economies send more than 40 percent of their exports to emerging markets, almost double the share they sent 20 years ago. Those exports added up to more than $4 trillion worth of goods in 2017 alone.

The picture for advanced economies is not uniformly rosy, however. Some industries will face fierce new competition from the developing world. Homegrown companies in Brazil, China, and other middle-income countries are branching out into higher-value-added industries, such as supercomputing, aerospace, and solar panel manufacturing, and relying less on imported parts from the developed world. Chinese companies are beginning to manufacture the computer chips they used to buy from abroad. (Although for smartphones, China still imports chips.) China's total annual imports of intermediate goods from Germany for vehicles, machines, and other sophisticated products peaked in 2014 at $44 billion; by 2017, the figure was $37 billion. Japan and South Korea have also seen their exports of intermediate goods to China in those industries decline. The Made in China 2025 initiative aims to build the country's strengths in cutting-edge areas such as AI, 5G wireless systems, and robotics.

STUCK IN THE MIDDLE

Middle-income countries, such as Brazil, China, Hungary, Mexico, Morocco, Poland, South Africa, Thailand, and Turkey, will reap some of the benefits of the new globalization, but they will also face new difficulties. Such countries now play important roles in the complex value chains that produce vehicles, machinery, electronics, chemicals, and transportation equipment. They both supply and compete with the companies based in countries with advanced economies that have traditionally dominated those industries.

A number of middle-income countries enjoy a fixed advantage: geographic proximity to major consumer markets in advanced economies. As automation makes labor costs less important, many multinational companies are choosing to build new factories not in countries with the lowest wages but in countries that are closer to their main consumer markets and that still offer lower wages than rich countries. Mexico fits the bill for the United States; Morocco, Turkey, and eastern European countries do the same for western European countries, as do Malaysia and Thailand for richer Asian countries, such as Japan and the wealthier parts of China.

Other middle-income countries are poised to benefit from the shift from goods to services. Costa Rica, for example, is now a major exporter of business services, such as data entry, analytics, and information technology support. Its exports in those sectors have grown at an average annual rate of 34 percent over the last ten years, and they are worth $4.5 billion today, or 7.6 percent of Costa Rica's GDP. The global annual trade in outsourced business services—everything from accounting to customer support—totals $270 billion and growing. That represents a lucrative opportunity for middle-income countries such as Costa Rica. Yet since AI tools could handle much of the work involved in these services, workers will need to be able to assist customers with more complex troubleshooting or sales if they are to stay ahead of the machines.

Middle-income countries also have huge opportunities to benefit from new technologies—not only by adopting them but also by building them. China, for instance, is a world leader in mobile payments. Apps such as WeChat Pay and Alipay have allowed Chinese consumers to move straight from using cash for transactions to making smartphone payments, skipping credit cards altogether. China's third-party payment platforms handled some $15.4 trillion worth of mobile payments in 2017—more than 40 times the amount processed in the United States, according to the consulting firm iResearch. In addition to making transactions cheaper and more efficient, payment apps also create huge pools of data that their creators can use to offer individually tailored loans, insurance, and investment products. In every country, the rise of big data raises difficult legal and ethical questions; in China, especially, official use of such data has come under scrutiny. No two countries are likely to come to exactly the same conclusions, but all will have to grapple with these issues.

In addition, e-commerce, mobile Internet, digital payments, and online financial services tend to contribute to more inclusive growth. A 2019 report by the Luohan Academy, a research group established by Alibaba, found that the benefits of the current digital revolution are likely to be more evenly distributed than those of previous technological revolutions. That's because digital technologies are no longer restricted to rich people in rich countries. Today's technologies have made it easier for people everywhere to start businesses, reach customers, and access financing. The report found that in China, digital technologies have accelerated growth in rural areas and inland provinces, places that have long lagged behind the coasts.

Even as middle-income countries shift to higher-value manufacturing and services, their manufacturing workers are likely to face struggles similar to those of American and European workers who have been displaced by digital technologies. Factory workers in China, Mexico, and Southeast Asia may bear the brunt of job displacement as wages rise and automation proceeds. A study by the economist Robert Atkinson found that China, the Czech Republic, Slovenia, and Thailand are adopting industrial robots faster than their wage levels would predict. Although automation will raise productivity growth and product quality, these countries will need to help displaced workers and avoid the mistakes made by the West.

THE DEVELOPING-COUNTRY CHALLENGE

In a world of increasing automation, the prospects for low-income countries are growing more uncertain. In the short term, export-led, labor-intensive manufacturing may still have room to grow in some low-wage countries. Bangladesh, India, and Vietnam are achieving solid growth in labor-intensive manufacturing exports, taking advantage of China's rising wages and the country's emphasis on more sophisticated and profitable products. To make the old model of export-led manufacturing growth work, countries will need to invest in roads, railways, airports, and other logistics infrastructure—and eventually in modern, high-tech factories that can compete with those in the rest of the world. Bangladesh, India, and Vietnam have taken some positive steps but will need to do more.

Whether services can drive the kind of rapid growth in early stage developing countries that manufacturing once did remains to be seen. Some low-income countries, such as Ghana, India, and the Philippines, have thriving service industries catering to businesses around the world. But even in those countries, the services-export sector employs few people and contributes little to GDP. Like middle-income countries, low-income ones will need to shift to higher-value activities to stay ahead of automation. Tradable services, such as transportation, finance, and business services, enjoy high productivity growth and can raise living standards, but less tradable ones, such as food preparation, health care, and education, which employ millions more people, thus far show little productivity growth, making them a poor engine for long-term prosperity.

Technology may enable some people in low-income economies to jump ahead in economic development without retracing the paths taken by those in advanced economies. Internet access allows workers everywhere to use online freelance platforms, such as UpWork, Fiverr, and Samasource, to earn supplemental income. A large share of the freelancers on these platforms are in developing countries. Khan Academy and Coursera teach languages and other skills. Google Translate is removing language barriers. Kiva and Kickstarter help aspiring entrepreneurs fund their start-ups. And telemedicine services make better health care available to people in remote places. But using those services requires widespread access to affordable high-speed Internet. Countries need to invest in digital infrastructure and education if they are to succeed in a global digital economy. Although many countries have achieved near-universal primary schooling, getting students to complete secondary school and making sure they receive a high-quality education when there are the next hurdles.

Trade has done more than almost anything else to cut global poverty. If developing countries shift strategies to take advantage of the next wave of globalization, trade can continue to lift people out of poverty and into the middle class. It is advanced economies, however, that need to change their outlook the most dramatically. They are shutting themselves off from the outside world at the very moment when they should be welcoming it in.

Middle-Class Heroes

The Best Guarantee of Good Governance

Nancy Birdsall

MARCH/APRIL 2016

The two economic developments that have garnered the most attention in recent years are the concentration of massive wealth in the richest one percent of the world's population and the tremendous, growth-driven decline in extreme poverty in the developing world, especially in China. But just as important has been the emergence of large middle classes in developing countries around the planet. This phenomenon—the result of more than two decades of nearly continuous fast-paced global economic growth—has been good not only for economies but also for governance. After all, history suggests that a large and secure middle class is a solid foundation on which to build and sustain an effective, democratic state. Middle classes not only have the wherewithal to finance vital services such as roads and public education through taxes; they also demand regulations, the fair enforcement of contracts, and the rule of law more generally—public goods that create a level social and economic playing field on which all can prosper.

The birth of new middle classes all over the world therefore qualifies as a triumph of capitalism and globalization. But it is a fragile victory. For the world now faces a period of prolonged slow growth. That is bad news, not only because it could halt the impressive declines in poverty but also because it could set back hopes for better governance and fair-minded economic policy across the developing

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world, harming both middle classes and the far larger populations of poorer people in the developing world who are the chief victims of weak or abusive governments. The rich world could lose out, too, since improvements in governance allow poor countries to collaborate with the international community in managing the risks posed by pandemics, terrorist groups, climate change, waves of political refugees, and other regional and global problems. Governments in the developing world and in rich countries alike would do well to nurture and protect the legitimate interests of the new middle classes.

WHO IS MIDDLE CLASS?

In today's high-income countries, "middle class" is a relative measure: most households earn enough money to place them more or less in the middle of the national income distribution. But "middle class" has always been an absolute concept as well: to be middle class means enjoying sufficient material security to be able to credibly plan for the future. That definition is particularly important in the developing world, where economists increasingly identify a middle-class household as one with enough income to survive such shocks as a spell of unemployment, a health emergency, or even the bankruptcy of a small business without a major or permanent decline in its living standard. Middle-class citizens deal with plenty of economic anxiety and stress, but they don't worry about being able to pay next month's rent, car loan installment, or credit card bill.

Evidence from Latin America suggests that reaching middle-class economic security in that region requires a daily income of somewhere around $10 per person, or the equivalent of around $10,000 a year for a family of three. That family is likely to include at least one adult who has completed secondary school and works in an office, a factory, or a retail job with a steady paycheck, as opposed to working in agriculture or the informal economy.

That $10-per-day threshold, adjusted for differences in prices across countries, can be applied elsewhere as a rough proxy for middle-class status. Of course, it's not a perfect measure: for example, it puts middle-class households in developing countries such as India and Kenya nowhere near the actual middle of those countries' income distributions. They're much closer to the top: of India's 1.25 billion people, at most 100 million enjoy that level of income. Indeed, for India, where the median daily income per person is less than $5, the $10-per-day threshold is probably too high; for Chile, the richest country in Latin America, with a median daily income of $14, it is probably too low. Imprecise as it may be, however, the absolute $10 figure is nonetheless useful, since it allows economists to compare the sizes of middle classes in various developing countries and to track their growth over time.

BOURGEOIS BENEFITS

The size of a country's middle class has significant economic and political implications. A large middle class increases the demand for domestic goods and services and helps fuel consumption-led growth. Middle-class parents have the resources to save and invest in their children's education, building human capital for the country as a whole. And in the developing world, people living on $10 a day or more are able to take reasonable business risks, becoming investors as well as consumers and workers. In all these ways, the emergence of a middle class drives economic growth.

Having a large middle class is also critical for fostering good governance. Middle-class citizens want the stability and predictability that come from a political system that promotes fair competition, in which the very rich cannot rely on insider privileges to accumulate unearned wealth. Middle-class people are less vulnerable than the poor to pressure to pay into patronage networks and are more likely to support governments that protect private property and encourage private investment. When the middle class reaches a certain size—perhaps 30 percent of the population is enough—its members can start to identify with one another and to use their collective power to demand that the state spend their taxes to finance public services, security, and other critical public goods. Finally, members of a prospering middle class are unlikely to be drawn into the kinds of ethnic and religious rivalries that spur political instability.

Of course, having a large middle class is no guarantee that a country will enjoy political stability and democratic (or even accountable) government. By the early 1980s, Venezuela's middle class had grown to include around half of the country's population, thanks mostly to the strength of the state-controlled oil sector. But unlike revenue from tax-paying middle classes, easy oil income tends to enrich governments without forcing them to become more accountable, and that is precisely what happened in Venezuela. In recent decades, poor governance has contributed to economic decline, and by 2006 (the most recent year for which data are available), the middle class had shrunk to 40 percent of the population. In the past ten years, it has almost surely shrunk even further. In 2012, more than 50 percent of Thailand's population belonged to the $10-per-day middle class. But the following year, the country boiled over into political chaos that ended in a military coup. Meanwhile, under President Vladimir Putin, oil-rich Russia has developed a big middle class and a stable government, but Putin's regime has successfully resisted pressure to become accountable. (It's also worth noting that a large middle class is not a prerequisite for stability. Rwanda, where less than ten percent of the population belongs to the $10-per-day middle class, has enjoyed a stable government and rapid, widely shared growth for more than two decades under President Paul Kagame.)

The point is that when it comes to the middle class, size matters, but it is not everything. For example, if a middle class grows large but then feels threatened during a major economic downturn, its members may succumb to demagogic and populist appeals—from the right or the left. In Argentina, a decade of inflation and a debt crisis in 2001–2 paved the way for the revival of Peronist populism, which shaped the policies of Néstor Kirchner, who served as president from 2003 to 2007, and of his wife, Cristina, who succeeded her husband and served until last year, when she was defeated in a bid for a third term. This dynamic is hardly exclusive to the developing world: a 2015 Pew Research Center study concluded that the size of the U.S. middle class and its share of the country's income and wealth are shrinking, which might partly explain the appeal of "outsider," non-establishment candidates in this year's presidential race. And in Europe, the fear of slow growth and worries about a "new machine age," in which automation and robots will eliminate jobs now held by well-educated members of the middle class, help account for the growing influence of anti-immigrant right-wing political parties.

Put simply, to constitute a politically positive force, a middle class must be not only large relative to a country's other classes but also prospering and feeling confident. That is not surprising: behavioral studies show that for most people, losing ground is more troubling than never gaining it, a tendency known as "loss aversion." Widespread fears of looming losses undermine the sense of security and the expectations of a better future that characterize the middle class.

A MIDDLE-CLASS WORLD

Twenty-five years ago, hardly any developing countries had large, growing middle classes. Most people in the world still lived in places where the distribution of income could be characterized (with only slight exaggeration) as bimodal: a small elite lived in comfort, while the vast majority of people were poor. There were exceptions, including Singapore, South Korea, and a number of Latin American countries in which industrialization had begun before World War II. By 1990, South Korea had experienced 30 years of extraordinary growth. As a result, more than 60 percent of its population earned an annual household income of \$10,000 or more in today's U.S. dollars. South Korea had, in effect, already become a middle-class society; at the same moment, it was also completing a transition to democracy after decades of military rule.

But across most of the developing world, the \$10-per-day middle class was still tiny. In China, India, and sub-Saharan Africa, it represented less than two percent of the population—and in Africa, that number was probably made up mostly of civil servants and the employees of international organizations and Western aid groups. Most people in Asia and Africa were still either terribly poor or just getting by.

Then, in the early 1990s, growth took off across the developing world and accelerated further during the first decade of this century, as low interest rates and a commodities boom benefited many low- and middle-income countries. Between 1990 and 2015, around one billion people escaped poverty, including about 650 million in China and India. During the same period, some 900 million people entered the \$10-per-day middle class.

The most extraordinary middle-class growth has come in urban areas of China. In 1990, the \$10-a-day middle class comprised an estimated 0.3 percent of China's urban population—about one million people. By 2010, it had grown to 35 percent of China's now much larger urban population—about 220 million people. By 2015, the figure had reached an estimated 340 million. China may not be taking the road that brought South Korea to democracy in the 1970s and 1980s. But even the Chinese government has had to become far more responsive to an economically independent middle class that is unhappy about problems such as air pollution and corruption.

Brazil is another place where the impact of a growing middle class has been undeniable. In the first decade of this century, low interest rates and iron ore exports to China boosted Brazilian growth and domestic investment, including in job-intensive sectors such as construction. Partly as a result, Brazil's $10-per-day middle class more than doubled between 1990 and 2015, from 20 percent of the population to almost 50 percent, and began flexing its political muscles. This newly empowered middle class has lent implicit but important support to the recent indictment of Brazilian officials accused of corruption in the Petrobras scandal, and its members will likely balk at any policies that might resurrect the destructive inflation that held the country back in the 1990s.

In the last two decades, meanwhile, Chile, Iran, and Malaysia have watched their middle classes grow to encompass almost 60 percent of their populations. And Mexico (close to 40 percent) and Peru (50 percent) have also witnessed major gains. This change bodes well for economic and political stability in all five of those countries—even in Iran, where President Hassan Rouhani's modest but promising opening to the West has stemmed in part from his need to win the political support of a bigger, better-educated middle class.

Middle classes have grown in poorer countries as well, although they started from much lower bases and have reached much smaller sizes. Middle classes still comprise less than ten percent of the populations of many countries in South Asia and sub-Saharan Africa; the same is true in rural China. Even with healthy growth, the middle classes will be unlikely to reach 30 percent of the populations in those places during the next 20 years. Among the non-oil Arab countries, only Morocco and Tunisia have sizable middle classes; in Egypt, by far the largest Arab country, just six percent of the population lives above the $10-per-day threshold.

In a few developing countries, such as India, Kenya, Nigeria, and Tanzania, middle classes have appeared but have not grown nearly large enough to effect significant political change. In those places, creating a virtuous cycle of middle-class growth and accountable governance remains a long-term development challenge. So although it makes sense to cheer the existence of modern shopping malls serving new middle classes in Lagos and Bangalore, it does not make sense to assume that every country with a lot of new malls is on a steady, predictable road to good governance and liberal democracy.

FIRST THE WEST, NOW THE REST?

The last 25 years have been an exceptional period for the developing world and might eventually prove comparable to the surge in economic growth in the West that began with British industrialization in the nineteenth century and eventually allowed liberal democracy to spread throughout Europe and North America. During the twentieth century, the West left the rest of the world behind. The ratio of the median household income in the rich countries of the West to that in the rest of the world grew from about five to one in 1900 to around 20 to 1 in 2000. The West experienced the twentieth century as one long virtuous cycle—interrupted by war and depression, of course—in which economic growth nurtured middle classes that in turn fought and paid for the state-led foundations of continuing growth: the rule of law, institutions that created the environment for entrepreneurship and innovation, and well-regulated markets.

The past few decades might prove to be an early chapter in a similar story for the developing world. For one thing, the globalization of markets may be speeding up the process. Globalization has favored the middle class by creating economies that richly reward educated workers, making it easier to obtain mortgage loans and other forms of credit, and generating manufacturing and retail supply chains that offer plenty of good jobs for skilled people. Meanwhile, advances in communications technology—the Internet, mobile devices, and social media—have empowered middle classes around the world to organize and advocate corporate and government accountability.

Optimists see those changes as major factors driving current political trends in some countries. In Turkey, factions within the urban middle class have resisted the creeping authoritarianism of President Recep Tayyip Erdogan. In Argentina, a large and relatively resilient middle class contributed to the recent defeat of former President Cristina Fernández de Kirchner's handpicked successor, rejecting the costs of continued economic populism. And perhaps it's no accident that Tunisia—where about 30 percent of the population belongs to the middle class (a very large proportion compared with most of the Arab world)—is the only country to have emerged from the Arab revolts of 2010–11 with something resembling democratic rule.

SOFT IN THE MIDDLE

The trouble is that the ongoing conversion of economic gains into political progress requires continued growth, and the global slowdown now threatens that process. Middle classes in Brazil, urban China, and Turkey are big but still new; the endurance of the political and social benefits they have provided depends on their institutionalization over the long term and the adoption of customs and rules that take a long time to harden into habits. A prolonged downturn in growth will complicate things in those countries—far more so than in the United States and western Europe, where middle classes are suffering but the institutions built around them are well established and relatively strong.

In most emerging markets, high growth during the last decade depended on commodity exports and low interest rates. High profits and easy credit created retail and public-service jobs for graduates of secondary schools but did not necessarily raise productivity in manufacturing and large-scale agriculture. The economist Dani Rodrik worries about what he calls "premature deindustrialization" in the developing world, given that manufacturing—the setting for the productivity increases and struggles between labor and capital that helped produce democratic politics in the West—has already peaked at 15 percent of employment in Brazil and India, far lower than the 30 percent level found in South Korea in the late 1980s. The fear is that the new middle classes will be hit hard if it turns out that global growth was built too much on easy credit and commodity booms and too little on the productivity gains that raise incomes and living standards for everyone.

If the middle class and those struggling to join it see their incomes stagnate or fall, they are less likely to support the economic and regulatory policies that over time increase the size of the overall economic pie. Instead, they are likely to embrace short-term, populist measures they believe will help them retain their gains and meet their raised expectations. In short, slow growth (or, worse, an economic collapse) could erode middle-class support for good governance, a broad social contract, and the economic reforms that sustain the opportunities on which the middle class depends.

Brazil might prove vulnerable to that dynamic. When the economy was growing rapidly and steadily, the middle class supported President Luiz Inácio Lula da Silva's impressive program of cash transfers to the very poor. Although most middle-class families responded to weak public schooling by sending their children to private schools, they did not resist educational reforms to improve public schooling. In leaner times, however, a beleaguered middle class might be less tolerant of programs that benefit the poor and the working class and might politically ally itself with the rich instead. A similar shift could occur in every country with a large but relatively new middle class.

It takes several decades to develop and solidify the responsive state institutions that the middle class wants and on which it relies. And even then, a large middle class does not guarantee that democratic institutions can survive hard times. Germany in the 1920s and 1930s provides the quintessential cautionary tale. Devastated by the country's defeat in World War I and suffering from runaway inflation, the German economy tanked, robbing the middle class of the sense of security that had bound it to the common good and opening the door to dangerous populism, Nazi demagoguery, and, finally, autocracy and the genocidal scapegoating of the Jews.

PROTECTING FRAGILE GAINS

In a hyperconnected global economy, lower growth in China, Japan, and Europe and economic fragility in Brazil and other big emerging markets spell trouble everywhere. To avoid the worst outcomes, countries with emerging middle classes cannot take shortcuts. That means eschewing irresponsible fiscal policies and other missteps that could generate inflation and hurt everyone. Developing countries should also consider reforming their health-care, pension, and unemployment programs, which underpin citizens' confidence in a secure future—not only within growing middle classes but also among people who have escaped absolute poverty and now aspire to middle-class security and status. Above all, middle classes in developing countries would benefit from reforms to educational systems and increased investment in infrastructure. Good schools and roads offer high returns to everyone, but they especially encourage private investment and bring the productivity gains on which middle classes build and prosper.

High-income countries can also play a role in building middle-class societies in the developing world. Development aid is not enough, however, as it ultimately has a minimal effect in recipient countries. Wealthy countries should instead focus on removing the obstacles they have created to healthy, productivity-driven growth—by cracking down on tax avoidance and evasion on the part of major multinationals, which reduce tax revenue in developing countries; by fixing privacy laws that have made it too easy to hide stolen assets abroad; by enforcing anti-bribery rules; by ending protectionist policies in agriculture and textiles; and by improving the management of their immigration systems.

The rich world can also lead by coordinating responses to collective problems that no single country has an incentive to address on its own. The most immediate danger comes from the risk of another financial panic that might spread globally. Such turmoil would do tremendous damage to incipient middle classes and to the millions of workers on the verge of moving from low-productivity, informal jobs into steady and reliable positions. Even more troubling for the long run is climate change, which threatens economic development everywhere and will surely go unsolved without leadership and financing from wealthy countries.

Rich individuals and corporations can also do their part by continuing to create new opportunities around the world, especially through investment in new technologies. Brazil's huge middle class, concentrated in the country's south, is in part the product of public and corporate research and investment that dramatically increased the region's yields of soy, apples, and other crops. Mobile technology is helping create middle-class opportunities in poor countries. And the philanthropist Bill Gates' recent launch of a $2 billion initiative to research and develop clean energy will indirectly create new green industries and jobs for middle-class workers everywhere.

None of those steps, of course, will completely offset the ill effects that long-term stagnation might have on the world's burgeoning middle classes. Only strong growth can do that. But doing nothing at all would risk allowing the world's new middle classes—one of the most hopeful developments of the past 30 years—to turn into a source of division and instability.

Adapt or Perish

Preparing for the Inescapable Effects of Climate Change

Alice Hill and Leonardo Martinez-Diaz

JANUARY/FEBRUARY 2020

Ever since climate change became a concern for policymakers and laypeople alike, the focus of public debate has largely been on mitigation: limiting greenhouse gas emissions, capturing carbon, and transitioning to renewable energy. Those efforts must continue if we hope to keep the planet hospitable. But it is also time to acknowledge that—no matter what we do—some measure of climate change is here to stay. The phenomenon has already affected the U.S. economy, U.S. national security, and human health. Such costs will only grow over time. The United States must build resilience and overhaul key systems, including those governing infrastructure, the use of climate data, and finance.

Otherwise, the blow to the U.S. economy will be staggering. Assuming that current trends continue, coastal damage, increased spending on electricity, and lost productivity due to climate-related illness are projected to consume an estimated $500 billion per year by the time a child born today has settled into retirement. Other estimates suggest that the U.S. economy will lose about 1.2 percent of

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GDP per year for every degree Celsius of warming, effectively halving the country's annual growth.

Climate change also threatens to fray the United States' social fabric. Although no region will be spared, some parts of the country—especially the South and the lower Midwest—will likely suffer more from climate change, and poor and vulnerable people across the United States will feel the greatest pain. Hundreds of thousands of people will be forced from their homes by coastal flooding. Against the backdrop of already high economic inequality, these effects will further deepen the United States' political and regional cleavages.

The country is already getting a preview of the chaos to come. Hurricanes in the Atlantic and on the Gulf coast and wildfires in the West have intensified. Floods have hampered agriculture in the Midwest, even as droughts and heat waves have grown longer and more common across the Southwest. Once regarded as theoretical possibilities in the distant future, the impacts of climate change have become the stuff of daily headlines.

Yet much of this future damage is preventable. The best approach is also the most obvious: cutting greenhouse gas emissions to arrest rising temperatures. The 2015 Paris agreement on climate change established a global framework for governments to cut emissions, but in 2017, U.S. President Donald Trump announced his intention to withdraw the United States from the deal. (He began the formal exit process in 2019.) Washington should return to the Paris agreement and redouble its efforts to reduce carbon emissions.

At the same time, the United States must prepare itself for the future effects of climate change. The country's industrial, commercial, and military infrastructure has been built to withstand historical weather extremes. But no matter what is done to slow it, climate change will push beyond historical boundaries, setting new records. The infrastructure, data systems, and financial policies of the United States must be upgraded in order for the country to survive.

FINDING SAFER GROUND

The road to preparedness begins with stronger regulations about where and how the country builds public infrastructure, as well as commercial and residential buildings. Today, building standards and practices assume that the climate is stationary, but climate change has rendered that assumption untenable.

Consider the Kwajalein atoll, a group of islands that is home to the U.S. Air Force's "space fence," a radar system that can track objects as small as a baseball through outer space to avert collisions with spacecraft. Before construction began on the $1 billion project, the Department of Defense conducted a risk assessment based on historical data and concluded that neither tidal nor wave flooding would pose a threat. But four years later, once construction was already underway, the military commissioned another study, this one informed by future projections. It found that flooding from rising sea levels could threaten the supply of freshwater used by military personnel living on the islands in the near future and that by 2055 a majority of the atoll could flood every year. The problem is not limited to this one facility. In 2019, the Government Accountability Office, an independent watchdog that works for Congress, found that most U.S. military installations failed to use climate projections in their master plans.

Civilian construction is also at risk. Unlike many developed countries, the United States has no single, national building code. Private organizations—such as the International Code Council and the National Fire Protection Association—create their own standards. Then, state governments, local communities, and the military decide whether to adopt those regulations. As a result, some parts of the country have outdated codes in place. Others have none at all. Even in areas with strict standards, the building codes do not yet account for future risks from climate change.

This is not to suggest that the federal government should develop a mandatory national building code. (Such a code could well run contrary to the constitutional division of power between the federal government and the states.) But it could certainly create a standard for federally funded projects, which would allow it to redirect existing tax dollars to those investments that have been designed to withstand future climate impacts. The Obama administration took this approach when it created the Federal Flood Risk Management Standard to govern construction in floodplains. But in 2017, ten days before Hurricane Harvey dumped some four feet of rain on Houston, the Trump administration rescinded that standard.

Federal, state, and local governments must also work together to encourage people to move out of places that cannot be salvaged or protected at a reasonable cost. Typically, the federal government does this by providing funds to local governments to buy at-risk homes. In the past 30 years, the United States has bought more than 40,000 flood-prone properties. But because such relocation programs remain voluntary, they often result in piecemeal change. To solve this, both the federal and state governments must implement strategies that target the most at-risk areas and encourage community-wide participation.

Another key obstacle is cost. The federal government has recently undertaken two experiments in relocating entire communities to safer ground. In 2016, it awarded a grant to move the approximately 80 residents of Isle de Jean Charles, an island off the coast of Louisiana that is slipping into the sea. The bill came to $48 million—a staggering $600,000 per person. In 2018, the federal government paid the 350-odd residents of the tiny Alaskan village of Newtok $15 million to move farther inland. This is just a fraction of the full cost of that relocation, which is estimated to surpass $100 million. For much larger communities, the relocation costs would soon become exorbitant. The government, working with academics and community leaders, must devise more cost-effective ways to facilitate community-scale relocation.

The government should also withdraw taxpayer dollars from new developments in risky areas. The problem is that the areas that are the fastest growing and most lucrative for developers are often also the most flood-prone, since the most coveted places to live are typically next to water along rivers or coastlines. In New Jersey, for example, developers have built almost three times as much housing in coastal flood areas as in less risky areas since 2009. By 2100, if such trends continue, an estimated 3.4 million homes nationwide could face regular inundation. To avoid this, the federal government must phase out the insurance subsidies and federally backed mortgages that prop up communities knowingly built in risk-prone areas.

The story in wildfire-prone California is not any better. Within weeks of the 2018 Camp Fire—the deadliest and most destructive wildfire in the history of the state—the county of Los Angeles approved a 19,000-home development in areas designated by the state's fire agency as being particularly vulnerable to fire. Those homes will add to the estimated 1.7 million residences across the country that have already been identified as being at risk from wildfires.

Even if some communities relocate successfully and new construction in dangerous areas declines, extreme weather events will still displace hundreds of thousands of Americans. Indeed, managing climate-related internal migration could become a major social and economic challenge, the likes of which the United States has seen only in miniature. In 2005, Hurricane Katrina turned more than one million people into migrants—in what was among the largest displacements of Americans in history. A quarter of a million of them ended up in Houston; about 150,000 were still there a year after the storm, increasing the total population of the city's metropolitan area by almost four percent. After the Camp Fire in California, the city of Chico saw its population swell by 20 percent within a matter of hours. In the coming decades, hundreds of thousands of people may leave vulnerable cities such as Miami and New Orleans. Such large and sudden movements of people will likely put unprecedented economic and social pressure on the communities that take in the migrants.

To prepare for this challenge, federal, state, and local governments should set aside funds to assist communities that receive large numbers of migrants. They should also identify mechanisms that would facilitate the transit and resettlement of displaced people—providing, among other things, modest cash grants to help individuals with their initial moving expenses. Governments should also ease the transition by offering job training and placement assistance, as well as tax relief to cover resettlement expenses. And to shore up the infrastructure in cities likely to be at the receiving end of internal migration, the public and private sectors should collaborate to create transitional housing units, develop additional capacity in schools and medical facilities, and strengthen social service provision. In other words, federal, state, and local governments need to consider how they will reconfigure themselves to deliver better support in the face of growing displacement, perhaps even creating a White House–led national relocation commission to coordinate federal efforts and strategy.

KNOW THY ENEMY

All these improvements will be tougher to make in the absence of reliable information about where climate change will likely hit the hardest, and how. In a warming world, a variety of activities, from purchasing a home to cultivating crops, will require highly localized climate and weather data. Thus, the quest for resilience will also demand greater access to such data—information that can enable governments, businesses, and households to understand the climate-related risks they face and how to manage them. Without that information, communities will be flying blind.

Governments and the private sector collect and process more climate and weather data today than at any other time in history. Satellites, drones, land- and sea-based sensors, and even cell phones collect data about everything from soil moisture to ocean temperatures. And thanks to cloud computing and machine learning, governments and businesses can now use all this information to build ever more powerful models for visualizing and managing future risks.

Yet many of those who desperately need these tools and information cannot access them. Think, for example, of Perdido Beach, a small town on the coast of Alabama threatened by rising sea levels, floods, and hurricanes. During a 2014 meeting with government officials focused on building resilience to climate change, Patsy Parker, the town's part-time mayor, explained her predicament: "I don't have a big planning staff, grant writers, or any resources. So how can I even know the size of the threats we are facing—and what can I do to protect the people of my town?" Thousands of communities across the United States face the same quandary.

During the Obama administration, the federal government worked hard to make climate change data more widely available. But the result was less than ideal: a patchwork of partially overlapping data "hubs" run by separate government agencies, including the Department of the Interior, the Department of Agriculture, the National Oceanic and Atmospheric Administration, and the Federal Emergency Management Agency. To get the information they need, farmers, city planners, first responders, and others are forced to navigate this unwieldy system. Even federal policymakers have trouble. As the Government Accountability Office warned in 2015, the federal government's climate data system is so fragmented that "decision makers are vastly underserved."

Cost is another problem. Private-sector companies continue to develop powerful tools to help clients understand how climate impacts could affect individual industrial parks, farms, and other assets. But those tools remain proprietary and unaffordable for many communities and small businesses.

To remedy these problems, the federal government should consolidate the existing system into a network of "resilience hubs," each serving a different region of the country. Backed by the federal and state governments, these centers would provide localized climate and weather data to those who need the information most. They would also provide technical help and guidance to local governments, small businesses, and communities seeking to build resilience. The hubs should ensure that climate information collected with taxpayer money remains freely and openly available, along with basic tools for translating the information into useful formats. Academic and nonprofit institutions should also do their part by promoting the development of free, open-source climate and disaster models—simulations that local governments and small businesses could use to forecast and manage risks.

THE PRICE OF CHANGE

Building resilience on the scale required will be expensive—but not as expensive as trying to deal with the damage after it has occurred. The U.S. government must therefore fundamentally rethink the way it finances preparedness for and recovery from climate-induced disasters. The prevailing approach is to underinvest in resilience and then pay for the damage afterward, leaving taxpayers to foot the bill.

Already, the costs are significant. For example, in 2017, after devastating wildfires and the unprecedented destruction of Hurricanes Harvey, Irma, and Maria, Congress authorized nearly $140 billion in emergency aid. It borrowed most of this money, adding to the growing national debt. This is neither smart nor sustainable. As natural disasters grow in frequency and intensity, they will only weaken the country's already deteriorating fiscal situation. Communities and businesses will need more and more money to rebound from the effects of extreme weather, especially if shortsighted building and land-use practices continue.

The smarter way is to spend before disaster strikes. One review conducted by the National Institute of Building Sciences of several thousand federally funded projects over a period of 20 years concluded that every $1 spent on preparation saves society an average of $4. (An update to that study revised the savings upward, to $6.) Similarly, the Global Commission on Adaptation, a group of public- and private-sector leaders from around the world, has calculated that investing $1.8 trillion on preventive and protective measures globally could generate as much as $7.1 trillion in net benefits.

But even if investing in resilience is cost effective, these measures will require new money. Prudent borrowing and higher taxes could fill the financing gap. In 2017, under a Republican mayor, voters in Miami approved a referendum to issue $400 million in "Miami forever bonds," the proceeds of which will pay for coastal-protection infrastructure, new flood pumps, and upgraded storm drains. These investments will buy Miami valuable time to consider longer-term options as the water rises.

In general, however, tax hikes are unpopular, and bonds—although useful for funding specific projects—rarely generate the type of sustained, reliable revenue required for investments in climate resilience over the long haul. Governments will need to combine these tools with other approaches. For instance, they could use revenues from carbon taxes and cap-and-trade schemes designed to reduce emissions. But this hasn't happened yet. The Regional Greenhouse Gas Initiative, a cap-and-trade system run by a group of northeastern U.S. states, has raised at least $2.6 billion through the sale of permits. Yet only Delaware appears to have used a portion of its share to build resilience; the other states have invested primarily in efforts to cut emissions or have returned the money back to taxpayers. Meanwhile, California's cap-and-trade mechanism generated $4.5 billion between 2012 and 2016. Some of the revenue has been used to pay for activities related to resilience, but the state has not formally designated a share of the funds exclusively for that purpose.

Businesses and homeowners will also need to be given incentives to embrace resilience in the first place. To provide those incentives, the government will have to fix the National Flood Insurance Program—the federal program that serves as the primary flood insurer in the United States. The program does not always charge insurance premiums that reflect the true risk of flooding. About 20 percent of the properties insured, typically those in risky floodplains, receive subsidized insurance, transferring the risk to the government and reducing incentives for homeowners to move to safer ground or to invest in retrofits to make their dwellings safer. The NFIP also continues to insure homes that have repeatedly flooded. Because its rates do not reflect actual risk, the program is now billions of dollars in debt.

Congress tried to fix the flood insurance system in 2012 by charging actuarially sound premiums, but a political backlash forced the proponents of the change into a swift retreat. The failed NFIP reform did not provide enough time and support for at-risk households to adjust to the increased costs. Congress must try again, but this time it should phase out the subsidies over a longer period of time and offer adequate assistance to affected homeowners, especially to low-income households.

WAKING UP TO THE TRUTH

If the effects of climate change are increasingly obvious, then why are the public and private sectors so unprepared for its consequences? One reason is that academic disciplines and government agencies often remain isolated from each other, and neither is particularly good at working with the private sector. Resilience will require unprecedented levels of collaboration among different kinds of experts and across different kinds of organizations. For example, public health officials will have to partner with geospatial analysts and biologists to anticipate how climate change may shift the geographic spread of mosquito-borne diseases, such as dengue and Zika. Corporate risk managers will need to work with engineers to figure out how to protect industrial facilities from new weather extremes. And military planners will have to learn from climate modelers how to secure bases and supply chains.

The politics of the moment haven't helped, either. Out of a false belief that climate change is exaggerated, the Trump administration has taken a hatchet to Obama-era reforms designed to manage its risks. Meanwhile, local governments have largely been left to build climate resilience on their own, with inadequate support from an administration that has all but erased the term "climate change" from its strategic documents. But federal leadership is urgently needed. It seems likely that the country will have to wait for a new administration to provide it.

Besides politics, the other major obstacle to progress is psychological. For decades, both public officials and private citizens have underestimated the growing risks from climate change. Behavioral economists refer to this as "availability bias," the tendency to judge the likelihood of an event based on how easily a relevant example can be called to mind. The government commission charged with investigating the 9/11 attacks, for example, singled out "a failure of imagination"—the simple inability to conceive of hijackers flying planes into buildings—as a key reason the United States had let its guard down.

The 9/11 Commission therefore recommended "routinizing . . . the exercise of imagination." The same idea could help decision-makers with climate resilience. The Task Force on Climate-Related Financial Disclosures, an advisory group with backing from financial regulators, has recommended that all publicly listed corporations regularly discuss and disclose potential climate-related scenarios to understand how accelerating climate impacts could affect their businesses.

Climate change is here. Reducing its impacts on lives and livelihoods will demand a sustained, collective effort across the United States. Both the government and private actors will need to rethink where and how they build infrastructure, how they use climate and weather data, and how they mobilize financial resources to offset potential risks. The economic case for such a transformation is clear. But putting it into practice will require creativity and collaboration. Politicians, business leaders, and the public will have to envision a planet different from the one they have come to know and put in place new systems that can ensure survival, health, and prosperity in a warmer world.

The New Nordic Model

How to Reconcile Free Trade, Patriotism, and Inclusivity

Børge Brende

JANUARY 2020

Countries everywhere face daunting socioeconomic challenges. Inequality is rising. Cohesion is weakening as societies undergo identity crises. And as demonstrations from Santiago to Paris to Beirut show, trust in government is in decline.

In their search for culprits, many voters and politicians blame trade, technology, and migration. But this leads to a seemingly unsolvable puzzle. If people are increasingly angry; if they think that no good can come from trade, technology, or migration; and if they don't trust their governments or fellow citizens to provide a solution, then what can be done?

The Nordic countries—Denmark, Finland, Iceland, Norway, and Sweden—show that there is a way. The Nordic model that they have pioneered over decades has a few basic components: a welfare state with free, high-quality education and health care; a "flexicurity" model of employment, which combines *flexi*ble hiring and firing with strong social se*curity*; and open markets with low tariffs and minimal barriers to trade.

But along with these well-known attributes, the Nordic model has another, less appreciated element: a constructive nationalism. This nationalism is defined not by place of origin or color of skin but by one's contributions to the well-being of the community. Aided by positive economic trends, this particular mix of elements has made for a social and governance model that reconciles growth and dynamism

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with equality and social peace. Understood correctly, the Nordic model holds important lessons for the rest of the world.

CORE COMMITMENTS

Thanks to their wealth, low inequality, and well-functioning welfare states, the Nordic countries have long been held up as examples for other industrialized nations. Ideologues have often pointed to a single factor in their success—expansive social support, on one end of the spectrum, and free trade, on the other—and tried to extrapolate from it a label for the entire system. But the model is less about ideology than it is about a core commitment that has brought inclusive and sustainable progress.

In recent years, that commitment has entailed three basic elements—a socioeconomic model, a societal attitude, and pragmatism when it comes to managing macroeconomic and technological trends. The socioeconomic model has three pillars: free universal health care, quality education, and affordable housing. These three pillars are neither random nor contested: they are almost universally recognized, both in the Nordics and by scholars around the world, as the key guarantors of equal access and opportunity. Putting them at the center of public policy is thus of paramount importance.

The socioeconomic model also includes an approach to labor markets known as flexicurity. The term's contraction of "flexibility" and "security" points to the main advantages of the system for employers and employees. Flexibility means that employers can downsize fast if market circumstances change. Security—provided by government, which uses tax dollars to guarantee unemployment benefits—means that employees can weather such changes. This grand bargain of flexicurity rests on—and bolsters—trust between employers and employees, who by and large have a good, constructive relationship.

The final attribute of the Nordic socioeconomic model is free trade and competition. That policy has allowed Nordic companies and entrepreneurs to compete in global markets while welcoming foreign imports. It has made the Nordic countries some of the most open and competitive economies in the world, by my own organization's calculation (Sweden and Denmark both made the top ten of the World Economic Forum's most recent Global Competitiveness Report) and in other rankings (the International Institute for Management Development lists Denmark, Sweden, Norway, and Finland among the world's top 15).

One consequence of this approach to free trade is that the Nordics have seen marked declines in some sectors: Denmark, for example, was once the world's shipbuilding yard, but has ceded that position to competitors in China, Turkey, and South Korea, who can construct ships at much lower cost thanks to some combination of lower wages and state support. But Denmark's companies reacted not by calling for tariffs, subsidies, or lower wages for their own employees but instead by specializing and moving up the value chain. Companies that once built whole ships now build engines using highly skilled labor and the latest technology.

Overall, this socioeconomic model—with its strong welfare state, flexible but secure labor market, and openness to trade and technology—has worked for all stakeholders. Workers in the Nordics are among the best educated and best paid in the world, resulting in a society with very low inequality. Virtually the entire population finishes high school, and most students continue their education either through university or specialized technical colleges. Certain that they will be economically secure, many talented young people choose the technical route, which benefits remaining manufacturing companies.

Workers are also constantly "reskilled" or "upskilled," with companies providing time off every year for training—ensuring that they have workforces that can sustain their competitiveness. But this also means that laid-off workers are more likely to find new employment: unlike in other industrial countries, they don't have to look for new work with outdated training or education. Even among manufacturing workers, unemployment today is extremely low and wages remain high.

Companies, for their part, are free to pursue the latest technologies and optimize their workforces to incorporate new production processes. But that has not led to the disappearance of blue-collar work. To the contrary. Volvo, the Swedish car manufacturer owned by the Chinese company Geely Holding, for example, not only kept its head office, product development, marketing, and administration functions at its Gothenburg headquarters but it still produces cars, engines, and components in Sweden. And Saab, despite no longer making cars, maintains 80 percent of its 17,000-strong global workforce in Sweden. It has morphed into a high-tech company, active in aeronautics, surveillance, and a range of related services, upskilling its workers along the way.

The government is a beneficiary of this socioeconomic model as well. Hosting competitive companies and a well-educated and well-paid workforce has allowed the Nordics to reduce their sovereign debt—and even the size of their governments. In Sweden, for example, the national debt-to-GDP ratio fell from 80 percent in 1995 to 41 percent in 2017. And its tax revenue represented 43.4 percent of GDP in 2019, a drop of nearly a full percentage point since 2017. The trends are similar in the other Nordic countries.

A GOOD NATIONALISM

The less celebrated part of the Nordic model is its strong but constructive nationalism. Being Danish, Finnish, Norwegian, or Swedish above all means buying into positive social values. Nordic patriotism centers on a commitment to a socioeconomic model that fosters trust among citizens, the private sector, and the government, and incentivizes individuals to make contributions—whether financial or in their choice of career and volunteer work—to the well-being of society at large.

The trust that Nordic citizens have in each other, and the shared national identity underpinning that trust, brings powerful advantages. It allows governments, unions, and businesses to work collaboratively instead of being adversaries. It ensures that governments are held to high standards of integrity and transparency and thus deliver effective services—including world-class health-care systems that are considerably less expensive than those of other developed countries.

Notably, Nordic nationalism has historically allowed for the integration of newcomers. In the early 1990s, for example, Nordic countries welcomed hundreds of thousands of refugees from the Balkans. Earlier waves of immigration produced some of today's most prominent members of society, such as the Swedish star soccer player Zlatan Ibrahimovic, who was born in Sweden to a Muslim Bosnian father and Catholic Croat mother. And at the peak of the Syrian refugee crisis in 2015, Sweden granted asylum to more people than any other European country, with the exception of Germany.

To be sure, integration has been a challenge with each wave of migrants. And since 2015, Sweden and other Nordic countries have imposed stricter immigration limits. But these policy changes were made for pragmatic reasons. After years of welcoming some of the highest numbers of immigrants per capita in the EU, slowing the rate of immigration would ensure that those who had already arrived could find jobs—a key step toward integration.

The Nordic version of nationalism has also been useful whenever macroeconomic and technological changes have called for socioeconomic adjustment—the final element of the Nordic model. The Nordics are today at the forefront of the Fourth Industrial Revolution, which has introduced high-tech robotics, artificial intelligence, 3-D printing, precision medicine, and other innovations. Rather than balking at the potential disruption of these new technologies, the Nordics harnessed the opportunities they offered, becoming leaders in these fields and reaping the benefits.

The Nordic model confirms an old saying: You can't predict the future, but you can prepare for it. It's not just workers with elite education or high-end jobs who are able to weather change; so too are those who earn technical degrees and undertake industry apprenticeships. With an emphasis on quality education and consistent training, the Nordic countries built some of the most advanced knowledge economies in the world. Their workforces are highly skilled—and highly adaptable—from top to bottom.

HOPE IN A TIME OF TURMOIL

The Nordic model is more relevant today than ever before. It offers a way for societies to thrive economically, socially, and technologically—driven not by ideology but by a pragmatic recognition that for an economy to succeed, all participants must be brought on board. By offering their people equal opportunities, they have strengthened the legitimacy of the social market economy. Their low Gini coefficients—the Nordic coefficients range between 0.26 and 0.28 and are among the lowest in the OECD, compared with those of the United States, which, with a coefficient of 0.39, has one of the highest, indicating a much more unequal society—demonstrate that there need not be a tradeoff between prosperity and equality.

Other countries would do well to incorporate these lessons. They too can build trust between citizens. They too can promote economic dynamism and competition while ensuring the security of workers and defending against protectionism and isolationism. They too can have open markets and competitive companies while still collecting enough taxes to provide effective government services and fund an expansive welfare state. The Nordic model, in short, offers a hopeful message for a time of turmoil.


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TOGETHER WE HAVE GREATER ENERGY

A New Era of Mobility

By David Abney, UPS Chairman and CEO

The old saying "the sky's the limit" now rings truer than ever. Thanks to drones and other innovations in transportation, the sky is an expanding frontier for moving goods in healthcare, commerce and humanitarian efforts alike.

UPS recently achieved a major milestone in autonomous aviation: becoming the first U.S. company awarded certification as a drone airline. The possibilities are abundant and herald what I believe is a new era of mobility.

With drones in force — and hypersonic planes, hyperloops and many other revolutionary technologies on the horizon — the day is coming when we will no longer be constrained by the current limitations of transportation. As these technologies reshape the logistics industry, time and distance will be less restrictive in the new "on-demand" world.

In the past, the owners of trucks, planes and ships aggregated cargo to make transport affordable. They also routed shipments through "hub and spoke" networks for efficiency. In the future, however, the growth of same-day delivery will be economical through drone fleets. Supply chains will become dynamic and more predictive, using advanced analytics that anticipate your needs. Goods will move in real time, sometimes as soon as you order — which means the supply chain never sleeps.

Lifesaving medicines, critical spare parts or gifts for a loved one no longer will take days to arrive. Instead, they will arrive in hours or even minutes by drone, hyperloop, delivery driver, autonomous vehicle with lockers or, more likely, some combination of all.

Drones play a role in this on-demand future, especially in healthcare. In 2016, UPS formed partnerships to deliver lifesaving medical supplies via drones in rural Rwanda and, later, Ghana. In the past year, we've joined with WakeMed, CVS, Kaiser Permanente and others to deliver everything from lab specimens to prescription medicines.

There's work to be done, however. Businesses must work closely with policymakers to set safety standards. Businesses and governments must also find ways to retrain and assist workers displaced by Fourth Industrial Revolution technologies. But if we rise to the opportunities before us, the sky's the limit.

UPS is hosting a panel discussion on drone innovation with top business leaders and regulators at the WEF Annual Meeting on January 22 in Davos.

Photo: Fortune