Home and Abroad

Building U.S. Global Economic Leadership on Strong Domestic Foundations

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Preface

By John J. Hamre

When CSIS was founded in 1962, the United States accounted for 40 percent of the global economy. In agriculture, manufacturing, and services, U.S. producers and exporters were second to none. Americans were the most productive, well compensated, and mobile workers in the world. U.S. innovative capacity was unparalleled, based on a high-quality education system, world-class research universities, and vibrant corporate research and development.

Where traditionally CSIS emphasized national security and defense matters, the economic strength of the U.S. and the dynamism of our domestic sector were the real foundation for national security.

Today, economics is central to international affairs. Our world has never been more interdependent, and the decisions of large countries reverberate across the global economy. Developments in dual-use technology have blurred the lines between economics and security. And while the United States is still the largest economy, countries like China and India are quickly catching up.

National security and economics are inseparable, creating more complex foreign policy challenges than at any other time in our history. The rise of isolationist voices in the United States has shaken the foundations of American strength and our will to lead. Our rivals are getting stronger and would be happy to take our place if we abandon our leadership role.

We are now entering a period of global competition where the daily battle will be fought around business and economic policy. The classic military balance will be relatively static, but the economic competition will be intense. We have asked our CSIS experts to reflect on the major issues and questions that will shape the competition over coming years. To win this competition, we must become again an attractive policy model for the world, solving real and emerging problems in a manner that advances both U.S. and global interests. These essays outline the questions we face and provide a starting point for a serious debate on the primary challenges of this coming decade.
1 | From Within and Without

An Order Under Stress

By Matthew P. Goodman

Introduction

In an armchair conversation at CSIS in September 2017, my colleague Scott Miller invited U.S. trade representative (USTR) Robert Lighthizer to present his bill of particulars about the World Trade Organization (WTO). Lighthizer said, “Americans look at the WTO or any of these trade agreements and we say this is a contract and these are my rights. Others—Europeans, but others also—tend to think they’re sort of evolving kinds of governance.”¹ The trade representative expressed nostalgia for the days before the WTO was founded in 1995, when world trade was governed by the General Agreement on Tariffs and Trade (GATT) and countries could negotiate settlements to their disputes bilaterally rather than having them imposed by a third party. In Lighthizer’s view, “The dispute-settlement process over the years has really diminished what we bargained for.”

These comments offer a revealing look into the world view of President Donald Trump and his chief trade negotiator. Their skepticism about the institutions and norms established and championed by the United States for over 70 years marks a radical departure. Prior administrations calculated that ceding a little U.S. sovereignty in the international system would produce significant net benefits, as other countries agreed to open their markets and play by the rules. The Trump administration feels this trade-off has turned out to be a raw deal for the United States.

Copious evidence suggests that the Trump view is wrong. The liberal international order set up under U.S. leadership at the end of World War II has produced enormous economic benefits for the United States, not to mention for the rest of the world. The so-called Bretton Woods institutions—the International Monetary Fund (IMF), the World Bank, and GATT—helped rebuild Europe and Japan, put a check on protectionism and beggar-thy-neighbor currency devaluations, and enabled economic growth and

rising living standards unprecedented in human history. From 1960 to 2017, the world’s gross domestic product (GDP) jumped from $1.4 trillion to $80 trillion. At the same time, the number of people making under $1.90 per day—the World Bank’s definition of absolute poverty—has dropped from over 40 percent of the world’s population to under 10 percent.²

These economic gains in turn underpinned domestic support for U.S. engagement and leadership in the international order. Ordinary citizens gave their tacit support to Washington’s keeping the U.S. market open, extending financial assistance abroad, and trading a modest amount of sovereignty for a more orderly world. Seven decades of broad peace and prosperity proved a handsome return on that investment.

And yet, Trump and Lighthizer are clearly onto something. Few Americans understand the arcana of the WTO, but they do feel that the benefits they once enjoyed under the U.S.-led international order are no longer widely shared. Witness the fevered chants of approval at Trump’s presidential campaign rallies when he attacked trade agreements, multilateral institutions, and Washington for its complicity in these arrangements.

In fact, these sentiments long predated Trump. As far back as 1999, protesters wreaked havoc in Seattle at a WTO ministerial meeting intended to launch a new round of multilateral negotiations. Another indicator was Hillary Clinton’s opposition as a presidential candidate to the Trans-Pacific Partnership (TPP), a trade agreement that had been a central element of her strategy, as secretary of state, to pivot to Asia.

Uneven Gains from Trade and Technological Change

The paradox of globalization and technological change underlies this questioning of the benefits of U.S. engagement in the international economy. While these forces offer broad benefits to an economy—including lower consumer costs, greater competitiveness, and rising national income—they also cause market dislocation and uneven distributional effects. Despite the six-fold rise in U.S. GDP between 1980 and 2016, that growing wealth has been more and more unevenly distributed across society. One common measure of income inequality, the Gini coefficient, rose from 0.40 to 0.48 over that period. The wealth of those at the 99th percentile in the United States more than tripled during those 26 years, while wealth in the bottom half of the population grew by less than 15 percent.

The landmark 2016 research by David Autor and others offered compelling evidence of the harmful distributional effects of what they called “China shock,” the surge of Chinese manufactured imports in the two decades spanning Beijing’s entry into the WTO in 2001. In manufacturing, U.S. unemployment rose; labor–market adjustment remained slow as workers’ costs of moving from one labor market to another remained high. Labor fell not only in industries that were directly vulnerable to foreign competition, but also in adjacent local labor markets as well. This phenomenon defied conventional economic wisdom, which predicted significant worker movement between industries to accommodate China, but no significant reduction of U.S. employment.

Faced with these dislocations, many U.S. workers feel that Washington has let them down. In his 2016 book *Failure to Adjust*, Edward Alden described the changes in the U.S. economy caused by globalization and technological advances—beginning in the early 1970s—and how little the U.S. government did to cushion American workers from the impact of these forces or prepare them for the new economy. Anger at Washington inevitably spilled over into a loss of faith in the institutions and processes of the international order that the United States had championed since World War II.

In addition to shedding light on domestic sources of discontent, Autor, Alden, and others illuminated the other major stress point for the global economic order: the rise of new powers, especially China. The combination of these countries’ growing economic weight, non-conformance with some traditional rules and norms, and revisionist views on global governance has put new strains on the old order.

**China Wakes**

The story of China’s rise from a small, poor economy in the late 1970s to the world’s second-largest economy today is by now familiar. Over that 40-year period, Beijing has generally been a rule taker in the international economy: it has accepted the role of the Bretton Woods institutions and for the most part complied with the rules of the existing order. To be sure, China has also been a rule breaker—increasingly so in recent years—but it has arguably behaved no worse than many other WTO members.

But China is no ordinary WTO member: it is a behemoth. Distortive economic policies such as massive industrial subsidies that had little impact on the global system when China was a $1 trillion economy are hugely disruptive now that China is a $12 trillion economy. As USTR Lighthizer put it in his September 2017 speech at CSIS: “The sheer scale of [Beijing’s] coordinated efforts to develop their economy, to subsidize, to create national champions, to force technology transfer, and to distort markets in China and throughout the world is a threat to the world trading system that is unprecedented… The WTO [was] not designed to successfully manage mercantilism on this scale.”

Despite its size and impact, China continues to insist that it is a developing country that deserves “special and differentiated treatment” in the international system. It is true that, with some 600 million people yet to join the middle class, China still has a per-capita GDP far lower than that of advanced countries like Singapore and the Republic of Korea. But China is also a major manufacturing and export power with sophisticated companies and technologies. For Beijing to claim that it deserves to be treated the same way as truly poor countries like Bangladesh or Burkina Faso is disingenuous—not to mention harmful to those countries’ interests.

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Yet even as Beijing hides behind its “developing country” mantra, it also demands greater voice in the international order, reflecting its new weight in the global economy. China is in fact underrepresented in the IMF, World Bank, and other international institutions; its quota and voting shares in the IMF, for example, are around 6 percent, as compared with its 21 percent share of global GDP. It is reasonable for Beijing to want a more equitable distribution of “shares and chairs” and for developed countries with disproportionate legacy shares to yield some to China.

It is worth noting that the existing order has gone a long way to accommodate the rise of China. While still underrepresented, China has been allocated significantly greater shares in the IMF and World Bank since the global financial crisis. Beijing has also been giving more voice in other institutions of global economic governance. It was a founding member (and 2016 host) of the Group of Twenty (G20) and won broad international support—albeit not from the United States—for its founding of a new multilateral institution, the Asian Infrastructure Investment Bank. All of this hastens the day when China will move from rule taker to rule maker, with significant consequences for the international order. China has a very different view of what rules and norms should govern key areas of the global economy, including digital governance, where Beijing favors notions of internet sovereignty, restrictions on cross-border flows of data, limited personal privacy, and use of technology as a form of social control. Beijing also has a very different view of the state’s appropriate role in the marketplace, supporting heavy subsidies and other favored treatment for state-owned enterprises, Communist Party intervention in private enterprise, and limits on market competition, especially from foreign firms.

**New Rules for a New Order**

A global economy built on these principles would not serve U.S. interests. Most Americans would agree that our economic growth and prosperity depend on an open internet, substantially free data flows based on a sensible foundation of privacy.
protection, and a limited and disciplined role for the state in the marketplace. Despite the populist backlash against specific trade agreements, polls show that a majority of Americans understands that we are better off in a globalized economy with substantially open trade and investment.\footnote{Bruce Stokes, "Americans, Like Many in Other Advanced Economies, Not Convinced of Trade’s Benefits," Pew Research Center, September 26, 2018, http://www.pewglobal.org/2018/09/26/americans-like-many-in-other-advanced-economies-not-convinced-of-trades-benefits/.}

The kind of international economy that serves U.S. interests will require rules, as well as institutions to develop and enforce them, whether overhauled versions of today’s institutions or brand new ones. Despite the Trump-Lighthizer view, the United States will not be able to dictate rules that work for us solely through a series of bilateral arrangements: the United States is a large and powerful country, but no longer uniquely so. China is already using the economic leverage it now wields to win support for its preferred approach. Others like India, Russia, and Brazil are increasingly able to play the role of rule maker—or spoiler—if we withdraw from global leadership.

\textbf{The United States is a large and powerful country, but no longer uniquely so. China is already using the economic leverage it now wields to win support for its preferred approach.}

The United States needs to get back in the game of working at all international levels—bilaterally, regionally, and multilaterally—to advocate an open, rules-based order. This requires us to return to smart economic statecraft: a strategic, coordinated, and nimble international economy policy that advances U.S. global interests effectively while earning the support of Americans at home.

\textit{Elements of a Smart Economic Statecraft}

Smart economic statecraft has both defensive and offensive elements. On defense, we need to “protect the crown jewels,” ensuring that assets and technologies critical to our national security are kept out of the wrong hands. The recent legislation tightening the U.S. foreign investment-screening and export-control regimes is in principle a step in the right direction, provided these new laws are not implemented in an overly expansive way that undermines the openness and freedom of private action that are critical to continued U.S. prosperity.\footnote{“Treasury Releases Interim Regulations for FIRMA Pilot Program,” U.S. Department of the Treasury, October 10, 2018, https://home.treasury.gov/news/press-releases/sm506; “Putting FIRMA into Practice: What CFUIS Reform Means for Foreign Investment in the United States,” Center for Strategic and International Studies, September 25, 2018, https://www.csis.org/events/putting-firma-practice-what-cfuis-reform-means-foreign-investment-united-states/}

Smart economic statecraft also requires vigorous enforcement of existing economic rules. We should forcefully push back against illegal, unreasonable, and harmful practices by China and other countries such as theft of intellectual property, massive industrial subsidies that create overcapacity in key sectors, regulatory harassment of foreign firms, and denial
of contestable markets. We should use every legitimate tool at our disposal, from bilateral negotiations to filing cases at the WTO; this includes using domestic U.S. trade laws—provided they are applied in a way that is consistent with our international obligations.

But defense and enforcement alone are not enough. We need a positive international economic agenda that wins others over to our preferred rules and norms. This was the purpose of TPP, under which 40 percent of the global economy had agreed to support U.S.-preferred rules on digital commerce, SOEs (state-owned enterprises), and labor and environment standards. If we are not going to return to TPP, we need a new trade strategy that achieves similar ends, especially in the large and fluid Indo-Pacific region. We also need to update and uphold the multilateral institutions—including the IMF, World Bank, and WTO—that we helped build and champion for over seven decades; these institutions are flawed but worth preserving. We need to more robustly fund and deploy development assistance and other tools of U.S. statecraft in a way that wins hearts and minds. This includes developing a strategy to compete in the global infrastructure competition in which China has arguably taken the lead with its ambitious Belt and Road Initiative.13

Across all of these areas, the United States needs to work with international allies and like-minded partners. Along with allies such as Japan, Australia, and Germany, a growing number of developing countries share many of our concerns about the challenges that China and others pose to the rules-based order. They are willing to work with us to enforce existing rules, develop new ones, and strengthen the institutions of global economic governance—provided that we abide by the rules ourselves and do not impose unjustified tariffs and quotas on them.

**Smart Economic Statecraft Starts at Home**

Washington needs to persuade ordinary Americans that U.S. engagement and leadership in the world is fundamentally in their interest. In part, this involves doing a better job of explaining the benefits of trade and investment in lowering consumer costs and providing new job opportunities in export-related businesses and where foreign investors are allowed to enter. Politicians and experts alike have done a woeful job of making this case in recent years, and this has to change.

But better messaging is not sufficient; we also need more forward-looking and better-funded policies to strengthen the domestic foundations of the U.S. economy and prepare our citizens for the inevitable adjustments

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caused by globalization and technological change. Among other things, this means investing more in the infrastructure, lifetime skills, and research and development that keep the U.S. economy on the cutting edge. An emerging bipartisan debate about targeted industrial policies to make the United States more competitive is a step in the right direction.14

Strengthening our domestic foundations through smart economic policies at home is a “twofer”: not only will it give the United States the continued resources and competitiveness to project power in the world, but it should also help rebuild the domestic consensus for international engagement by persuading Americans that the gains from the new economy are being shared more widely.

The link between needed investments at home and a return to U.S. leadership abroad is the theme that unites the essays in this collection. CSIS scholars with expertise across a range of disciplines—macroeconomics, trade, energy, technology, and development—have put their thoughts on these issues into the short essays that follow. While we have different perspectives on what kind of order is best and how to get there, we all agree on two things: a rules-based international order remains strongly in the U.S. interest, and smart engagement from Washington—both at home and abroad—is critical to achieving it.

2 | Toward a Rules-Based Global Trade System

By William Alan Reinsch

Introduction

Throughout most of human history, world trade was run by the law of the jungle. If countries paid any attention to trade, they largely practiced mercantilism, which emphasized amassing a large trade surplus—maintained in gold and silver—at the expense of one’s neighbors. There were no widely agreed-upon rules; countries often refused to export their technology or innovations lest a competitor get hold of them; and developed countries in Europe often sought colonies both for the extraction of raw materials and as involuntary markets for their manufactured products. Indeed, the British insistence on maintaining such a relationship with its American colonies helped ignite the revolution. There were occasional bilateral trade treaties, but—aside from the Universal Postal Union of 1874—there was no international economic order.

That system came to a halt in the wake of two world wars and the Great Depression. In 1944, the Allied nations, anticipating the end of the second world war, gathered in Bretton Woods, New Hampshire to develop a blueprint for a new international economic order. They agreed on a tripod: the International Monetary Fund to deal with monetary imbalances, the World Bank initially to address post-war reconstruction and subsequently global development, and an intended International Trade Organization to deal with trade. The last never got off the ground due to the U.S. Senate’s failure to approve it, but a skeletal General Agreement on Tariffs and Trade (GATT), intended as a forum for trade liberalization negotiations, took its place and ultimately became the World Trade Organization (WTO) in 1994.

Since then, the WTO has advocated for, facilitated, and helped enforce our current open, rules-based trading system, the rules for which were largely written through multilateral trade negotiations under the GATT or WTO umbrella. The WTO’s three main functions are to pursue multilateral, and in some cases plurilateral, trade negotiations; to enforce the existing negotiated rules through its dispute resolution structure; and to help new members and emerging economies better understand and adhere to the rules.
The two systems, GATT and the WTO—whose creation was heavily influenced by the United States—have worked very well for us. For more than 70 years they have contributed to U.S. economic growth and prosperity by providing predictability and eventually enforceability. They helped nations negotiate and reduce tariff rates and led efforts to reduce non-tariff barriers by negotiating agreed-upon standards and rules that members were expected to adhere to. As a result of the Uruguay Round, the WTO also took on a dispute settlement responsibility that had actual teeth; members could no longer block an unfavorable result and promised to abide by the outcome. The WTO is the only multilateral organization with that capability.

For the United States, GATT and the WTO have been enormously important. They have provided a forum for liberalizing trade, much to our advantage, and they provided a means of enforcing the rules, which has helped us combat the unfair trade practices that we frequently encounter. Most important, the WTO has discouraged countries from taking unilateral actions that restrict trade or seek to implement beggar-thy-neighbor policies. As a country that has, at least up until now, tried hard to obey the rules and pressed others to do the same, we have benefited greatly from the system.

History, however, has shown that domestic economic anxiety can lead political leaders to blame the global trading system and trade relationships with foreign partners, and adopt trade restrictive measures. Without a strong domestic economic foundation, full-throated support for the multilateral trade system may become politically unviable, and opposition to the system may become a useful outlet for domestic economic discontent. To reduce trade’s status as a lightning rod issue in the U.S. political arena, leaders need to better educate citizens on the advantages of trade and embrace policies that will help workers adapt to and benefit from a globalized economy.

The global trade system is not flawless, and it certainly is under stress both from the United States and other parties, but its basic structure and competence remains the best answer to the question of how to keep the trading system running in a way that works the best for the most people. After examining the challenges, the global trade system faces, this paper will look at some ways they might be met.

**An Institution under Stress**

Although the WTO has provided the foundation for a rules-based global trade system that largely benefits the United States, there are some valid criticisms of it.
The requirement that WTO decisions be taken by consensus is a double-edged sword. It equalizes influence among members but has nearly stopped progress in negotiations to further liberalize global trade. There have been no substantial negotiating breakthroughs at the WTO since the Doha Development Agenda was launched in 2001, due to the ability of single countries to veto any deal. It is clear that for the WTO to remain relevant it must move past the Doha Round and on to other issues, but members have not been able to agree to do that, leaving the future agenda of the body in question. Members were able to conclude a Trade Facilitation Agreement in 2015, which will significantly reduce costs, corruption, and inefficiency at borders, but that was only a small part of the ambitious Doha Round agenda.

Members have also not met obligations to notify the WTO of subsidies. China has been the most significant laggard in this area, although it has made some progress in the last year. The lack of notifications complicates negotiations. If members cannot tell what tools governments are using to restrict or expand trade or what subsidies are being provided to certain industries, it becomes more challenging to craft agreements to most effectively liberalize trade or limit harmful practices.

WTO members also take advantage of “special and differential” treatment (S&D). This concept embraces the idea that poor countries should not be expected to meet the same obligations in the same time frames as rich countries. The concept has broad support, but since a country’s development status is one of self-definition, many countries continue to classify themselves as developing when they clearly are not.

For example, a case can be made that countries such as the Republic of Korea, Qatar, Singapore, Turkey, and the United Arab Emirates should graduate themselves from developing status and embrace the full responsibilities of a WTO member. Each of those countries ranks in roughly the top third of the world in GDP per capita. The same case can be made for others, such as Israel, Hong Kong, Taiwan, and Mexico. Countries that are clearly beyond the least-developed level should, at a minimum, be required to move toward the obligations taken on by WTO members that are considered developed.
Such a requirement could entail a new approach to S&D status, with obligations determined by the capacity of individual countries to meet them. A case-by-case, evidence-based approach to S&D status would result in a spectrum of obligations and avoid allowing more developed countries to meet obligations that are unambitious for them. The European Union has proposed such an approach, although whether the entire membership would back it remains to be seen. In February 2019, the United States issued a proposal of its own, in this area. The U.S. proposal lays out S&D eligibility criteria and ends the practice of self-designation. Countries would no longer be allowed S&D treatment if they account for 0.5 percent or more of world trade or are a G20 nation, a member or acceding member of the Organization for Economic Cooperation and Development (OECD), or a high-income country as defined by the World Bank. The proposal has little chance of being adopted at the WTO but likely influenced Brazil’s decision in March to forgo S&D status in exchange for U.S. support for its OECD accession. Finding compromise on S&D standards acceptable to the entire WTO membership will be an uphill battle, but success will both strengthen the institution and promote greater economic growth.

China represents a unique case. It claims developing country status, but the Trump administration believes it is past time for it to shed that label and assume greater responsibility for maintaining the trading system. The Office of the U.S. Trade Representative laid out its case at a meeting of the WTO General Council in July 2018.

It pointed to China’s economic growth, its foreign exchange reserves of over $3 trillion, ownership of a vast number of super computers, infrastructure development, relatively large defense budget, and other factors. China’s representative to the WTO predictably took issue with those arguments. This dispute, along with China’s unfair practices related to forced technology transfer, theft of intellectual property, propping up of state-owned enterprises, and discrimination against foreign companies, has caused the United States to argue that neither the WTO as an institution nor its rules are equipped to deal with the magnitude of the challenge to the entire trade system that China represents. Failure to resolve these issues under the WTO umbrella will only encourage those in the United States who would prefer to withdraw from the organization.

Even the so-called “crown jewel” of the WTO—the dispute settlement mechanism—has not escaped criticism. The dispute settlement function has for the most part successfully corralled governments towards compliance with WTO rules, either through negotiated settlements or predictable and measured trade penalties approved by all WTO members. But imperfections in the dispute settlement process have emerged as WTO members have relied more heavily on it over the past two decades.

Disputes can take years to resolve, and defending governments have little incentive to remove the allegedly offending measure while proceedings are ongoing. Deadlines negotiated by WTO members for disputes are not met. While lawyers in Geneva present their arguments, industries are left exposed to the measures under review. By the time disputes are settled, it is often too late to save the companies or sectors that were subject to unfair trade practices.

The WTO Appellate Body, which hears appeals of panel decisions, has come under particularly heavy fire by successive U.S. administrations for an overly activist approach. Washington argues that the Appellate Body has engaged in a practice of reading meaning into WTO agreements and changing the obligations they carry for members, despite members not negotiating those changes. This is unacceptable to the United States, which views the WTO as a member-driven organization and the agreements that underlie it as a contract which cannot be changed without agreement from all members.

Flawed but Needed

Despite these shortcomings, withdrawing from the WTO or allowing it to stagnate would be a mistake. The United States instead should adopt a multi-pronged approach to revitalize the rules-based global trade system.

First, Washington should resume its leadership position at the WTO. The Trump administration has pushed the WTO dispute settlement to the breaking point by refusing to allow new Appellate Body members to be appointed, without offering proposals to address its concerns. That has been an effective tactic in forcing other countries to take our concerns seriously and to attempt to address the problems, but it does not by itself constitute an effective strategy. Now that Canada has initiated an effort by a group of members to develop WTO reform proposals and the European Union has issued its own paper on the subject, it is time for the administration to lift the blockade on new Appellate Body members, abandon its action-by-crisis attitude, and engage WTO members in good faith negotiations on reform. History has shown that when the United States leads by example in Geneva, it can often drag the rest of the world with it over the finish line.

Over the long term, the United States should also encourage rising economic powers such as India and China to graduate themselves from the developing country category at the WTO and shoulder more responsibility in moving negotiations forward. New Delhi and Beijing have played spoiler at past WTO ministerial meetings and remain to be convinced that progress on trade liberalization—which benefits all—depends on emerging economies stepping up and taking on a greater share of the burden of sustaining the system.

Neither of those efforts, unfortunately, are likely to bear fruit immediately; nothing at the WTO moves quickly. In the short term, the United States should pursue plurilateral and regional trade agreements with like-minded countries. These deals are essential to liberalizing trade and setting high-standard rules in key regions and sectors. Rejoining the Trans-Pacific Partnership and resuming talks with the European Union for the Transatlantic Trade and Investment Partnership should be top U.S. priorities. Washington should also support revived negotiations for the Trade in Services Agreement and the Environmental Goods Agreement.

Countries outside of these deals will naturally gravitate towards them as they realize that their economies will be left worse off without preferential trade relations with the United States and other developed countries. Eventually, a patchwork of regional deals and plurilaterals could be sewn together under the WTO’s leadership, which will produce a success for the institution and a strengthened trading system.

Creating the Necessary Domestic Economic Conditions

The United States’ objectives for modernizing the trading system and strengthening the WTO will not be achieved without altering the current domestic political and economic climate, especially in the domestic attitude toward trade and workforce mobility. The dilemma of strong but unevenly distributed domestic economic growth connects both issues. In order to make positive U.S. trade leadership abroad sustainable, policymakers must address foundational issues at home. Leaders intent on global trade liberalization will be hamstrung by a lack of domestic support for trade. Left unaddressed, unequal
economic growth that corresponds with increased trade liberalization will inspire backlash against a U.S. free trade agenda.

The United States’ objectives for modernizing the trading system and strengthening the WTO will not be achieved without altering the current domestic political and economic climate, especially in the domestic attitude toward trade and workforce mobility.

Trade has become a convenient punching bag for politicians because public understanding is low, costs are short term and specific, and benefits are long term, diffuse, and hard to explain. Nevertheless, the fundamental truth is that there are gains from trade. There are winners and losers, but on average, the economy grows faster and larger when the United States trades with the world. More specifically, a rules-based trading system with the United States at its helm maximizes the potential benefits for all Americans, while minimizing uncertainty for U.S. businesses and reducing the ability for geopolitical challengers to use trade as a weapon.

For the public to buy into a U.S. leadership role in global trade liberalization, the benefits must be felt by most Americans. More than solid economic fundamentals—low unemployment and strong GDP growth—this requires workers who have a variety of skills and are mobile both professionally and geographically. The economic models that prove that trade grows the economy usually assume that workers can easily switch jobs. A more mobile and agile workforce is the key to making sure reality reflects those models.

Worker Mobility

While many major economic indicators have been positive for a few years, growth has been uneven. In turn, attitudes toward trade are divided. Residents of metropolitan areas with high growth rates tend to embrace trade, while non-metropolitan parts of the country do not. In the 2016 election, Hillary Clinton won fewer counties than any major party candidate this century, but the aggregate share of U.S. GDP derived from those counties was 64 percent.

In a healthy economic system, people move from low-output regions to high-output regions. This promotes an economic equilibrium and helps to ensure that most citizens benefit from positive economic developments. However, in the United States, mobility rates have declined for half a century. The Census Bureau reports that in the 1980s, 3.5 percent of the working age population (25–59) moved from one state to another each

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year. By 2013, that number was less than 1.5 percent. Many metropolitan areas—San Francisco, Los Angeles, New York, Boston, and Washington, DC—might be booming. But fewer workers are moving to these places than in previous decades.

There are many reasons for that, but three stand out: high housing prices, technical barriers that make it hard to work in the same industry in a new state, and an aging population.

Homes in dynamic, high-income cities have always cost more than homes in low-income parts of the country, but the gap has grown. Prior to 1980, U.S. citizens moved on average from low-income to high-income places. This pattern has reversed itself in recent years, as home prices in flourishing cities have increased faster than wages. For workers from towns with sluggish growth, moving to San Francisco is no longer the option it once was.

As rents have exploded in recent years, so too have state licensing laws. In the 1950s, one in twenty jobs required a license. Today, it is one in three. In many cases, licenses are important regulations that protect the public: surgeons, for example, must be certified before they operate. But licensing also protects existing workers and allows them to prevent new competitors from entering their markets. This can discourage new arrivals from out-of-state.

The third main reason U.S. citizens move less is that they are older than they once were. Aging populations are less mobile. This has a feedback effect: first, older workers are less likely to move; second, businesses adjust recruiting practices to a less mobile workforce, and stop looking for potential employees out-of-state.

Declining mobility makes it more difficult for the population to embrace a rules-based liberal trading system. Without the ability of the workforce to relocate itself, economic growth will be lopsided, and large areas are left out of the gains from trade and economic growth. The government and private sector must incentivize mobility and address its root causes. This can take many forms. Government can encourage home building, rather than restrict housing through zoning rules, and it can provide more uniform certifications for many industries. Addressing aging populations will be a challenge—immigration and child tax credits are political third rails—but younger populations are more mobile and more agile. At one end, government could subsidize mobility with one-time relocation payments. At the least, the government can strengthen the safety net so that our citizens are less afraid to take chances and move to make the most of the gains from trade.

Politicians prefer not to stake political capital on issues with little public support. Most of Washington’s leaders might privately support the postwar trading order, but they have hesitated to evangelize about the benefits of trade to constituents whose lives have not

improved. In other words, the United States has been leading on trade, and the economy has grown at a respectable rate, but many Americans have not benefited. It has become difficult for politicians to make a nuanced argument about why leading on global trade liberalization is in their constituents’ interest unless those voters see results first-hand. On the other hand, a workforce that runs faster and further while the United States displays leadership on global trade liberalization will have the opposite effect: more of the public will benefit from trade and respond positively to arguments that a U.S.-led trading system is in their best interest. Thus, the answer lies not in better talking points and more speeches, but in changes in domestic policy that help more people benefit from the growth created by trade in ways that are visible to them.
3 | Markets, Mercantilism, and Mandates

The Future of the Global Energy System

By Sarah Ladislaw

Introduction

For decades, the United States has promoted a rules-based, multilateral order, supported by the creation of shared gains from free trade and deeper economic and political integration within and among countries. This system promotes, among other things, energy security: the ability to secure affordable and reliable supplies of energy. As world’s largest consumer and importer of energy, the United States has found it squarely within its national interest to support this approach through domestic and international energy policy as well as foreign policy.

Today, the world energy system is changing. The emergence of new technologies, shifting societal priorities, and the rise of new and important public and private sector players are all driving these changes. The energy system may be less market oriented and more state driven going forward than in the recent past, given the propensity of major energy producers and consumers to want more control over this dynamic sector for greater domestic economic gains or increased influence and leverage abroad.

The United States has important decisions to make about its approach to this dynamic environment. Thanks to the remarkable advances in oil, natural gas, and renewable energy production, the United States is closer to energy self-sufficiency than ever before and will become a net exporter of energy over the coming years. In light of this change, the current administration has adopted a strategy of energy dominance, designed to signal our growing strength in the energy sector and our ability to use that comparative advantage for economic and geopolitical gains. Nevertheless, the United States still depends upon the rest of the world, through integrated markets and supply chains, to meet its energy needs. As the CSIS Energy and National Security Program first wrote in 2014, the United States must decide whether it will use this newfound energy position to maintain the existing order or transition to something new. Since then, the pace of change in the energy system has only accelerated, making the need for a new strategy even more acute.
As technology, societal preferences, economic forces, and geopolitical drivers continue to shift, the question is whether the long-term trend toward greater market liberalization in the energy sector will continue, or whether governments will come to rely on mandates and mercantilist behavior to get what they need. The United States should carefully consider the implications of these developments and decide how to adjust its strategy accordingly.

**What Has Changed?**

The world energy system has always been a mix of public and private activity, with varying degrees of government intervention and myriad justifications for different behaviors. Generally speaking, some countries operate on a more market-oriented basis with the light touch of government, while others prefer a system of policy mandates carried out by state-owned enterprises. The act of trading energy itself has always been a perplexing mix of market and mercantilist behavior.

Beginning in the 1950s, as the world began to open up to global trading regimes and integrate economic activity, the push toward market liberalization got underway. Adjusting energy sector behavior to conform to the virtues of free-market economics—the goal of major multilateral institutions and OECD governments over the last several decades—has been a complex and incomplete task fraught with contradictions. However, the prevailing sentiment was that energy markets were becoming and should continue to become more open, more liberal, and more interconnected to a growing set of global markets.

At the turn of the century, the United States was far and away the world’s largest energy consumer. We were concerned about growing reliance on energy imports and higher energy prices. Fresh off the heels of the Kyoto Protocol, climate change was certainly an issue, but it was nowhere near the globally accepted imperative that it is today. The landscape for energy technologies was different as well. Renewable energy technologies were more expensive than conventional fuels for electric power and transportation. U.S. oil and gas supply were limited relative to demand in the United States. And the world was poised for a nuclear renaissance.

During that time, in the first decade of this century, we were surprised by the explosive energy demand coming from China. We had no idea that China would be able to revolutionize aspects of the energy industry by driving down the cost of solar panels and building nuclear power at a breakneck pace. We did not prioritize places like India, Southeast Asia, or Africa, regions of the world that are now critically important to our collective energy future. Concern over global energy scarcity led the United States to promote longstanding principles of sound energy policy at home and abroad: support for free and open markets, infrastructure integration,
diversity of supply, investment in research and development for new technologies, and maintenance of strategic oil stockpiles in case of supply disruptions.

Today, the future of the global energy landscape looks different. Most energy demand comes from developing economies, and nearly all energy demand growth will come from these countries. This demand comes not only from China, which accounts for one third of the estimated demand growth expected between now and 2040; India and at least 13 other countries make up the remainder of that growth. Renewable energy resources like solar and wind compete without subsidies against conventional power generation fuels like coal and natural gas. Renewable energy accounted for the majority of new power generation capacity in 2018 and is expected to be the fastest and largest source of energy supply growth going forward.

The United States is the largest producer of oil and natural gas in the world and slated to become a net exporter of both, thanks to the development of shale gas and tight oil onshore. The greatest fears within the oil industry are not about adequate supply, but adequate demand. Digitalization and information technology services are transforming electric power systems, transportation services, and oil and gas development today and may bring about new business models that challenge incumbent utilities, companies, and investors. The climate change imperative has become existential as countries around the world experience the effects of a changing climate and come to terms with the extreme difficulty of managing those conditions on an ongoing basis. All the while, governments work to manage local air pollution associated with energy production and use and connect greater portions of the population to modern energy services. Building a sustainable and resilient energy future will require a new slate of policies, programs, and incentives.

**Markets, Mercantilism, and Mandates**

Several factors are eroding the force of markets in the energy system. First is economic anxiety about the broader global economic and political context. The decline of the neoliberal, capitalist order is a familiar refrain in today’s populist environment. While it is likely premature
to sound the death knell of all that underpins the global economic fabric, it is safe to say that despite all the benefits of globalization—and there are many—right now the mix of unaddressed harms, along with the pace of change caused by new technologies, is creating economic anxiety that undermines further reliance on free and open markets.

Second, most energy investment takes place in economies dominated by public entities and state-owned enterprises. According to the International Energy Agency’s World Energy Outlook, “more than 70 percent of the $2 trillion required in the world’s energy supply investment each year, across all domains, either comes from state-directed entities or responds to a full or partial revenue guarantee established by regulation.”

Energy investment is much more state directed and less market based simply because of the structure of the economies where energy investment is taking place.

Third, competitive dynamics within the energy sector may lead to more mercantilist behavior. Concerns over mercantilism in oil markets have existed for quite some time. When Chinese state-owned enterprises began to invest overseas in oil assets in Latin America, Africa, and Central Asia, many feared that those investments would be made on non-commercial terms. Today, the concern is that oil supplier countries in the Middle East are structuring more state-to-state relationships in Asia with forward positioning of their refinery and storage infrastructure to ensure their access to those markets and provide energy security assurance to large consumers like China. U.S. energy partners are concerned that the United States is acting in more mercantilist ways by promoting trade in energy goods to rectify its trade imbalances. However, to date there is little evidence to show that energy transactions are taking place as a result of high-level announcements by other countries of the intent to buy more U.S. natural gas and coal. The dramatic surge in U.S. exports of oil and natural gas was well underway long before the Trump administration offered any sort of support, rhetorical or otherwise.

Fourth, governments and companies may turn to energy mandates—policies that dictate or prescribe an outcome—as the energy sector continues to transition. Mandates can jumpstart the creation of markets and help conduct industrial policy that aims to

grow new areas of competitive advantage in the energy sector. China, India, countries throughout Europe, and even the United States have used mandates to grow new markets for sources of renewable power generation and storage, electric vehicles, and biofuels. As new technologies emerge and the countries seek to create new areas of competitive advantage, as China is doing with electric vehicles, they may combine mandates and some level of mercantilist protectionism to create new opportunities.

Even stricter mandates may also arise in response to urgent public policy issues like addressing rampant local air pollution or taking more aggressive action to deal with climate change. Many governments, national as well as subnational, institute strategies and targets to address climate change and carry them out through regulation and financial incentives. Market-based mechanisms like cap-and-trade programs and carbon taxes are the preferred policy choice of most economists.\textsuperscript{28} According to the World Bank, 51 carbon pricing initiatives exist today and cover 20 percent of global greenhouse gas emissions.\textsuperscript{29} In many places, these markets exist together with energy mandates such as renewable portfolio standards or renewable fuel standards. In recent years, as efforts to grow market-based policies like carbon pricing systems have made progress but not yet lived up to their potential, the prospect of pursuing more aggressive mandates is again in vogue. Mandates can be effective. For example, according to a recent study, nearly half of the renewable energy power generation capacity built in the United States since 2000 is associated with a renewable portfolio standard.\textsuperscript{30} And while the impact of renewable portfolio standards on market outcomes has diminished in recent years, they still play an important role in certain regional markets, where they support between 70–90 percent of new capacity additions.

In many cases, mandates and markets are often intermixed. Where mandates or targets are set out as the goal of the program and a system of regulation, financial incentives or market exchanges are established to carry out the stated objective of the mandate or target. According to REN21, 142 countries have national targets for renewable energy in power generation, and 90 countries, states, or provinces have targets for more than 50 percent renewable electricity.\textsuperscript{31} In most cases, these targets are backed up by regulations and financial incentives.

But the trend towards mandates has also taken a potentially more dramatic turn in recent years with a move towards bans. In several locations, instead of enacting least-cost economic policies to smoothly transition an energy system from reliance on one fuel or technology to another, countries, companies, and financial institutions have announced a spate of bans: essentially pledges to stop using, selling, or financing certain energy technologies or resources by a certain date.

The latest of these pledges came from the World Bank, which said it will no longer offer support for upstream oil and gas development after 2019. The World Bank made this


announcement in the context of French president Emmanuel Macron’s One Planet Summit and in support of the Bank’s pledge to help countries transition to low carbon energy sources and meet the global goal of limiting temperature rise to 2 degrees Celsius. The World Bank is not a major investor in oil and gas exploration and justified the decision saying that developing countries have many affordable energy options and that they would only fund oil and gas upstream activity “in exceptional circumstances in the poorest countries where there is a clear benefit to energy access, and this is consistent with countries’ nationally determined commitments.”

Another recent ban came at last year’s UN climate conference in Bonn, Germany, where a group of 15 countries agreed to phase out use of coal by 2030. The Powering Past Coal Alliance members committed to “phase out existing traditional coal power in their jurisdictions and to create a moratorium on any new traditional coal power stations without carbon capture and storage.” At the UN climate conference in Katowice, Poland in 2018, the group announced financial, technical, and advisory support for countries that have agreed to transition away from coal.

Bans have been announced in the transportation sector as well. Most prominently, the United Kingdom, France, and India announced bans to stop sales of internal combustion engines past 2030. China and Germany have signaled their intent to end non-electric vehicle sales but have not set a target date. Several cities have also banned diesel vehicles or automobiles altogether from city centers in an effort to fight air pollution and congestion. Some carmakers followed suit, with several notable companies announcing their goal to eventually end the sale of non-electric vehicles. Investment groups have gotten into the act as well, with several large investors saying they will no longer invest in certain fossil energy sources like coal, oil sands, and, in the case of one organization, unconventional oil and gas. While many of the coal-related financing bans occurred in 2016 or earlier, BNP Paribas announced it would no longer fund coal or high carbon assets like oil sands and, for the first time, shale production.

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Some caveats are in order. Few of these bans are supported by enough concrete action to meet their end objective. It is fine to announce the intent to ban a technology or fuel, but if this is not followed up by laws, regulations, or a corporate strategy then it is simply an aspirational statement. Governments and companies routinely make policy or market pronouncements that they eventually abandon. If not, the United States would be well on its way to a hydrogen economy, following pledges made under the George W. Bush administration, or electric vehicle deployment expectations under the Obama administration. Statements matter: they help to shift public policy debates and encourage changes in sentiment or ambition. These bans signal intent and communicate a desire for change and a recognition that progress toward that change is not happening fast enough.

**Not Dead Yet**

Despite the current malaise in market approaches, they are far from dead. Emerging economies, which account for a huge portion of energy investment, are still moving toward market approaches where they can—particularly where a less market-oriented approach has stopped delivering results and the government is willing to try something more efficient and possibly more effective. China, for example, has been piloting cap and trade programs to test its effects and announced plans to rollout a nationwide emissions trading system by 2020. The market for liquefied natural gas, a fast-growing area of trade that is becoming less constricted and more free flowing all the time, is expected to expand on a global basis.

**What Next for the U.S. Approach?**

In addition to having one of the most dynamic and advantaged energy sectors in the world, the United States has also been a leader in shaping today’s international norms and expectations for energy. In every source of energy, without exception, the United States shares in some sort of past, present, or future competitive advantage relative to many other countries in the world. Often regarded as a free-market oriented country, the United States is, in some ways, a microcosm of the many approaches that exist around the world, combining market, mercantile, and mandate approaches to achieve energy policy goals. U.S. states are pursuing different energy development strategies: California and New York are leaning very far forward to dramatically reduce emissions and transform the energy sector, while other states, like Texas and Pennsylvania, adopt an all-of-the-above approach, seeking to develop multiple types of energy resources. Each state has a variety of policies and strategies designed to help meet multiple economic, environmental, and security-oriented goals for their energy sectors.

Despite the dynamism of the U.S. energy sector, the United States as a whole lacks a coherent and consistent strategy towards its energy future and its reliance on markets, mercantilism, and mandates. Under the Obama administration, climate change was the overarching priority for energy policy. After the failure to pass cap-and-trade legislation, the U.S. government played a bigger role in regulating the energy sector in order to reduce...
greenhouse gas emissions. This approach was criticized by many in the political opposition as regulatory overreach that would stifle investment in the energy sector and harm economic competitiveness. Ironically, the United States experienced its largest increase in oil and natural gas production over that period of time—more than at any other point in its history. And despite lifting some of the power sector regulations that were expected to be so onerous, the power sector has largely kept on track with the emissions sought by that regulation.

**Despite the dynamism of the U.S. energy sector, the United States as a whole lacks a coherent and consistent strategy towards its energy future and its reliance on markets, mercantilism, and mandates.**

The Trump administration’s posture of energy dominance seeks to accrue economic and political benefits from the production and trading of energy resources. So far, the Trump administration has sought to free U.S. energy markets by rolling back regulations on the energy sector in order to promote energy production and export. As mentioned earlier, the administration promotes the sale of energy resources as part of its energy dominance strategy, and energy trade often features prominently, if only rhetorically, in a number of ongoing trade disputes. However, it is not at all clear that the government has directly intervened in the deals associated with trading in energy goods and services.

As in many other areas of policymaking, the United States lacks a clear strategy because political parties disagree about priorities. Democrats, by and large, see climate change as the central driving force for U.S. energy policy and the need to create and sell clean energy technology at home and abroad as the biggest strategic objectives, though affordability and security are also important considerations. Republicans, on the other hand, see affordability and security as the most important aspects of the energy system, with environmental impacts and climate change as secondary concerns. Failure to resolve this issue is becoming a strategic liability for the United States.
Despite all the changes on the horizon, the world still has shared interests in the future of the global energy system even if current trends point to a more competitive and transitioning energy landscape. The United States should continue to uphold long-held global energy imperatives like global oil market security, standards for cyber security, reducing emissions to combat global climate change, and ensuring global access to modern energy services, through our own practices and support for collaborative approaches via multilateral institutions.

As countries around the world seek to influence rapidly changing energy sectors to meet a complex set of objectives in a more competitive global landscape, the United States should take a careful look at the mix of markets, mandates, and mercantilist approaches it has at its disposal and devise a strategy that creatively combines the most effective approaches. In the past, the United States championed markets, while using mandates in many instances and mercantilism less frequently. The kind of changes and challenges facing the sector today are quite different and will require a new and more nuanced approach.
4 | Technology, Disruption, and Shiny Object Syndrome

By James Andrew Lewis

Introduction

Technology is the application of scientific knowledge to practical problems. New technologies reshape markets by creating new opportunities. This began with the industrial revolution, when industrial and agricultural machines reshaped work and changed how wealth was created.

The scope of technology’s application has increased exponentially in the intervening three hundred years. Some call this latest iteration of technological change a “fourth industrial revolution,” but it can also be seen as another phase of the upheaval that began at the end of seventeenth century. There are benefits in this, as a very long trend line allows us to draw certain conclusions with a degree of confidence, and to reject others. The most important of these conclusions is that markets and societies adjust to technology and that “disruption” is both desirable and temporary.

Digital technologies do not fundamentally change this trendline. They reduce the cost of knowledge acquisition and create “substitute” services that displace older and more expensive alternatives. The long trend frames the issues for policymaking: how to accelerate innovation and entrepreneurship, how to deal with the social consequences of technology’s disruptive effects, and how best to position national economies to create opportunities for wealth.

Embrace Disruption

A few years ago, Jill Lepore wrote The Disruption Machine about the genealogy and flaws of the concept of “disruptive innovation.” This term was coined by Clayton Christensen in a famous book, now 20 years old, called The Innovator’s Dilemma. Disruption and

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38. Christensen, The Innovator’s Dilemma.
innovation have become leitmotifs for popular discussions of technology’s economic effect, but analyses of disruption often look at the issue through the wrong end of the telescope. New technologies are disruptive for incumbents. For consumers—both companies and individuals—new technologies offer more efficiency (e.g. lower cost or greater convenience) and greater utility.

Disruption has an undeserved negative connotation, reflecting a larger anxiety about the pace of change in societies and the pressures on sovereignty and national identity created by technology. The Innovator’s Dilemma explained why companies failed—because they miss disruptive innovations stealthily creeping up on them—but there is an older discussion of disruption that focuses not on why companies fail but why nations succeed. Disruption and innovation are the keys to this success.

For continued growth, mature economies need to find ways to use existing resources more efficiently. In classical terms, these resources are land, labor, and capital. The Austrian economist Joseph Schumpeter and others identified innovation and entrepreneurship as the factors that allow economies continue to grow by making better use of resources. Schumpeter argued that innovation—the development of new products and new methods of production—was the source of economic growth and in turn these developments would lead to “creative destruction,” as economies recombined existing resources into new and more productive patterns. Researchers who followed Schumpeter looked at “technological dynamism,” the pace and scope of innovative activities in different economies. Later work by economists such as Robert Solow, Kenneth Arrow, and others, identified the creation of new technologies as the exogenous factor that drives long-term growth.

The technologies that drove growth in the past—steam, electrical power, internal combustion, and computing—are all mature, and there is some debate over whether growth has plateaued and the pace of innovation has slowed. The ability to create new technologies or improve existing technologies (or processes) is crucial for growth. Innovation is produced by many factors, including an educated workforce, appropriate fiscal and tax policies, balanced protection of intellectual property rights, and minimal but adequate regulatory impediments (at all levels of government) are key, along with adequate infrastructures, and openness to trade. Progress in these areas is necessary to increase innovation, but each can require difficult political decisions.

This concern about a declining U.S. ability to innovate has not automatically translated into a “Sputnik moment,” where the nation unites around policies that promote growth and invention. Waking up one day in 1957 to find a Russian satellite orbiting overhead prompted the creation of federal programs that laid the foundation for U.S. military and economic strength until the 1990s. The Sputnik model has not been replaced, largely for political reasons.

First, since 1994, U.S. policy has been shaped by a powerful desire to spend as little as possible on public goods, including research, justifying this with wishful thinking about private investment. While the private sector spends significantly more on research and

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development, to great benefit, it does not spend on the fundamental research that creates new opportunities for innovation. This is simple economics. The results of fundamental research cannot be patented and do not produce a revenue stream that justifies a company's investment. This is why fundamental research is called a public good, and a lack of federal support for fundamental research may be one reason why innovation is slowing down.

The venture capital ecosystem centered in northern California (created by government investments in the 1960s) has been an immense wealth creator, and the ability to commercialize scientific research has been a uniquely American strength. But Silicon Valley does not do “big” innovation. Incremental innovation in existing technologies is vital for business, but it has its limits, captured in the venture capitalist lament, “We wanted flying cars, instead we got 140 characters.”

40 To accelerate truly disruptive innovation requires progress in physics and other sciences, and these ultimately depend on government investment.

Second, the Sputnik model for innovation is out of date. Just as company supply chains have become transitional in the search for lower costs, research and innovation have been “globalized” in the last two decades, with the most productive approaches being transnational and cooperative rather than nationally based. To use artificial intelligence (AI) as an example of current innovation, the AI ecosystem stretches from China to Canada, Israel and the United Kingdom, and is centered in Silicon Valley. 41 Disconnecting one part from the others (or seeking to build indigenous innovation) reduces the likelihood of successful outcomes.

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41. Sometimes described as open versus closed innovation systems.
China is the point of comparison. Well before The Innovators Dilemma, China gave priority to the development of research and engineering skills and the acquisition (by means licit and illicit) of advanced western technology. However, the Chinese are trapped by their own politics in taking the less successful path, believing that political stability and the survival of the party require them to choose indigenous innovation and increase political interference in investment and business. If we compare the centrally directed and the market models for innovation, markets clearly do better, and the Chinese model of state capitalism may be reaching the end of its utility. Markets are still best at reallocating resources to more efficient use—Schumpeter’s “creative disruption”—and China faces difficult decisions on restructuring state-directed investments.

The Chinese have one clear strength when compared to the United States: their willingness to spend on public goods like infrastructure, education, and research. The consistent goal of U.S. policymaking since 1994 has been to cut taxes, by either cutting government spending for social services and capital goods, or by running deficits. This disturbing fiscal policy is often accompanied by modifications to law and regulation to protect incumbents that are too big to fail. Underinvestment and protectionism are not the way to promote innovation and growth.

**Skynet for Jobs**

One of the grounds for concern over technological disruption is that it will lead to unemployment. This has never happened before, however, and while we could discuss whether it is likely to happen now, it might be more productive to look at how to build a modern workforce and how societies will allocate leisure.

An examination of how technology was seen in the 19th century would highlight the western concept of “progress.” Inventions came at a stunning pace, and writers of the time hailed new technology as the unstoppable march of human perfectibility. At the end of the nineteenth century, American pundits were likely to express unbounded enthusiasm and confidence in technological progress; now they are just as likely to express grave concerns. The roots to this change probably lie in the unhappy history of the twentieth century in the West, where mass production led to mass warfare.

The discussion of technology in Washington can, using a term coined by Gartner, be driven, by the “hype cycle,” to describe inflated expectations for a new technology. The latest shiny object distracts, and in Washington, the hype cycle works both ways. Vendors extol the game-changing virtues of the new technology; pundits decry its risks. It is possible that there may be an inverse correlation between knowledge of the technology and predictions of negative outcomes. The hype cycle and shiny object syndrome mean that much of the discussion is ephemeral and a poor guide for both policymaking and policymakers.

For example, five years ago, some economists warned that the “gig” economy would upend traditional jobs. Now, in the face of data showing it had little real effect, they admit they were wrong. We want to avoid similar miscalculations for AI, blockchain, or other new technologies. We have three hundred years of experience with industrial revolutions and

new technologies. Using this trend line lets us assess and dismiss the extremes—claims for exaggerated benefit and claims for exaggerated disruption.

AI is the preeminent example of this today. Claims that AI will profoundly change economies are true, but true over a much longer period of time. In fact, AI is not particularly new. When you call an airline and it asks, “are these the first four letters of your name,” it is not only identifying you but pulling up your customer record and assigning a priority on the call wait list. Much of AI operates in the background. What has changed is the scope, sophistication, and visibility of AI applications. The financial services industry has been using AI applications for years, to predict market trends, place trades, and aid decision making, suggesting that the next target for technological disruption should be getting governments and policymaking to use AI to aid decisionmaking and speed performance.

Like earlier technologies, computers were invented to augment human performance and to replace human effort with efforts by machines. They are powerful tools, but while their speed has increased and algorithms grown more sophisticated, these machines still cannot “think.” Computing devices give the illusion of thought through the rapid processing of instructions and data, but they are still just machines automating an increasing number of tasks, and this will not change until a computing device can pass the Turing test, which requires a computer to exhibit intelligent behavior indistinguishable from that of a human. No AI program can do this.

The fear is that this will eventually change, and autonomous systems will not only disrupt business, but compete with, overtake, and replace humans. In the Terminator films, Skynet “wakes up,” becoming an intelligent entity, and uses its control over weapons and manufacturing to overpower humans. While Terminator was not a documentary, many public figures such as Stephen Hawking, Henry Kissinger, and Elon Musk, seem to think so, and warn (according to Hawking) that “the development of full artificial intelligence could spell the end of the human race.” These warnings are better seen as an indicator of changing social attitudes towards risk and progress rather than accurate predictions for the future.

Concern that AI will take away jobs is similar to the fears that have greeted every major new technology since the start of the industrial age. Every time these fears have proven to be wrong. To be called a Luddite is not a compliment. New technologies eliminate some jobs, but they create others and the overall effect is to make societies richer. Early research suggests that the deployment of AI will actually increase employment.

There will be some workforce disruption, but it will be temporary. Countries with adequate social policies will face less disruption from AI, since those who are temporarily unemployed will not be left homeless, uninsured, or without food. That is not the case in the United States. Even temporary unemployment will put the many Americans living on the edge of poverty at risk. The lack of effective social policies in the United States


will exacerbate AI’s disruptive effect. Inadequate social policies, when compared to other
developed economies, will complicate the politics of a U.S. transition to an economy
where AI plays a larger role.

The problem of technological unemployment is not new. In 1930, John Maynard Keynes
reviewed the fears that technology and automation would lead to joblessness.45 Keynes
correctly predicted that technological unemployment would be temporary as economies
adjusted to the new conditions. Keynes was not the first to observe this consistent pattern
of self-correction in the market, a pattern that is often counterintuitive and unnervingly
non-linear. Policymakers often prefer predictability; the market can be uncomfortably
random, but this usually produces better outcomes than rigid strategies. Markets and
societies adjust to new technologies as the participants in those markets and societies
discover and pursue new opportunities. Disruption created by the use of new technologies
is not new and the alternative to disruption is stagnation.

The Ayn Randiness of Disruption

Ayn Rand wrote of heroic entrepreneurs who struggle against constraining grey
bureaucrats. This theme underlies the discussion of disruption, as do more Luddite
concerns about “grey satanic mills” creating a dystopian world. Neither the myth of the
heroic entrepreneur or of Skynet-style dystopia are particularly useful as a guide to policy.

Similarly, abandoning twentieth-century terms borrowed from defense and strategy would
help in the design of better policy; this is not a “race,” nor are we in a “war.” Stale military
metaphors are a symptom of intellectual laziness. A fresh vocabulary for innovation
and technological competition would better guide policy and help Washington and
other capitals to better understand the processes, effects, and challenges of technology,
disruption and innovation.

The nation that “dominates” AI will not be “the ruler of the world,” but the nation that is
best at creating and accommodating disruption—and AI will accelerate disruption —will
do better than others. To gain this advantage, policies that accelerate research and ease
connection to the global innovation system would best serve the United States. This may
require a new generation of policymakers who are more comfortable with technology. This
has already happened in business, with most large companies embracing technology to cut
costs and expand revenue. Companies that did not do this went out of business. Those that
did saw their own internal processes disrupted in ways that make them more competitive.

The nation that “dominates” AI will not be “the ruler of the world,” but the nation that is best at creating
and accommodating disruption—and AI will accelerate disruption —will do better than others.

We do not know how the new digital technologies will be applied. People installed steam engines in their buildings to power machinery once driven by water mills. Someone realized that the steam engine could power elevators (making sky-scrapers possible), and then electric generators, and initially every big building had its own electrical plant. Electricity made a range of industrial and consumer applications possible—items as mundane as toasters or clothes irons. Digital technologies like AI drive growth and will continue to do so for decades, but in ways we may not always be well placed to predict.

What we can predict is that we have not extracted the full value of innovation made possible by digital technologies. In combination with AI, the next generation of network technologies, with its higher speed and capacity, and the commoditization of computing resources will put us at the onset of another explosive cycle of growth. If anything, the combining of cheap computing and memory, mobility, low cost sensors and artificial intelligence will create a digital environment that will as profoundly reshape the economy as did the application of steam power and electricity over the nineteenth century.
Introduction

The majority of the multilateral and bilateral development institutions that function today were set up after World War II, when the world was divided among the first world (the United States and other Allied nations), the second world (the Soviet Union, China and their allies), and the third world (developing countries that did not align with any of the two). Under U.S. leadership, institutions like the United Nations, the World Bank, the Organization for Economic Cooperation and Development (OECD), the World Trade Organization (WTO), and the U.S. Agency for International Development (USAID) helped promote democracy worldwide, foster peace, increase global trade, and achieve a more prosperous world. The United States, its allies, and developing countries benefited from the international liberal order. U.S. national wealth has tripled in the fifty years since the OECD was formed and many countries have been able to graduate from foreign aid: 11 of our 15 largest trading partners are former recipients of U.S. foreign assistance.46

At the same time, the developing world is evolving, taking two distinct paths. One set of countries is moving up the development ladder and is richer, freer, healthier, and more prosperous. A second, smaller set of countries remains fragile, struggling with conflict and added risks, fueling new challenges and global spillovers such as pandemics, forced migration, and international crime.47 This changing world represents opportunities for the United States to engage more widely with the developing world by bringing new countries into the rules-based international order, strengthening existing friendships and partnerships, countering threats to security, promoting peace, and creating new markets for U.S. goods and services through trade and investment. Today’s development landscape requires reorienting the foreign aid toolkit that the United States and international institutions currently use and will need to use in the future.

United States and Developing Countries Have Benefited from International Liberal Order

The international liberal order has benefited developing countries. The Marshall Plan resulted in significant gains for participating countries: industrial production by the end of 1951 was 64 percent higher than four years earlier, agricultural production increased by 24 percent, and the overall gross national product of these countries increased by 25 percent.48 A set of 50 or so countries that were once considered poor have become more prosperous, freer, healthier, and more capable, including Chile, South Korea, and the Balkan states. Another set of 40 countries are on the path to become developed within the next 10 years.49 Globally, poverty is at its lowest levels in history. Approximately 1.85 billion people have been lifted out of poverty over the last 30 years, and extreme poverty has decreased from 35 to 10.7 percent.50 In 1990, 1 in 3 people lived in extreme poverty; currently, only 1 in 10 are extremely poor.51 Developing countries have also made significant gains in health and education outcomes.

Globalization has benefited the American people as well. According to a recent report by the American Academy of Diplomacy, U.S. exports accounted for 13 percent of U.S. gross domestic product and supported approximately 11.5 million U.S. jobs.52

Evolving Challenges to the International Liberal Order

The developing world has evolved, and new challenges threaten the international liberal order. The United States now faces a series of compelling challenges because the world’s development landscape has shifted. These challenges include:

- China’s emergence as a soft power competitor as it gains influence in the developing world through its Belt and Road Initiative, Asian Infrastructure Investment Bank, and other access to finance
- Fragile and conflict-affected states like Nigeria and Syria
- A series of middle-income rogue nations that create security and other challenges like North Korea and Iran
- Drug-financed gangs and militias in Central America and other parts of the world
- Forced migration from conflict areas
- Meeting the employment needs of the massive youth bulge in certain parts of the world
- Meeting the social protection needs of an aging population in other parts of the world
- Feeding 9.5 billion people by 2050

51. Ibid.
While these challenges may be intimidating because of their economic and national security implications, the U.S. government must view them as opportunities to rebuild relationships and trust with the developing world. The United States has tremendous science, technology, and innovation capacity, world-renowned higher education, and extensive access to trade markets, all of which it can use much more effectively in the international development sphere.

Since 1950 the United States has supported $720 billion in multilateral and bilateral initiatives (24 percent of total OECD Development Assistance Committee foreign aid).53 Although the United States remains the world’s largest foreign aid provider, spending approximately $34 billion each year, foreign assistance represents only 1 percent of U.S. federal spending, while in 1965 it represented 2.5 percent. 54

While these challenges may be intimidating because of their economic and national security implications, the U.S. government must view them as opportunities to rebuild relationships and trust with the developing world.

The United States is still the world’s largest distributor of bilateral assistance, but the role of the private sector has grown significantly. In developing countries, the private sector now accounts for 90 percent of employment opportunities.55 Foreign direct investments (FDI)—made by a firm or individual in one country into business interests in a different country—is now five times the amount of total foreign aid.56 In 2015, FDI flows reached $1.8 trillion, of which $800 billion went to developing countries.57

Developing countries can now generate trillions, not billions, of dollars to provide for their people through domestic resource mobilization—in the form of taxes, savings and other local revenues. In sub-Saharan Africa, domestic resource mobilization grew from $100 billion in 2000 to around $500 billion in 2013. Moreover, from 2000 to 2014, the amount of global remittances grew from $73 billion to $431 billion.58 With greater domestic resources, FDI, and remittances, more and more developing countries can finance and manage their delivery of basic human needs without relying on foreign assistance.

The United States is losing its primary place in global trade and investments. In 2006, the United States was the principal trade partner for close to 130 nations; ten years later, this number has halved to 76.\textsuperscript{59} China has taken our place and has become the top trading partner for 124 countries. In Africa, where a large share of the trade and investment opportunities lie, the United States has lost significant ground and seems to be disengaging from the region.\textsuperscript{60} In 2016, U.S. exports to Africa hit a 10-year low, with sub-Saharan Africa now accounting for only 0.9 percent of our exports.\textsuperscript{61} The United States must look for new ways to leverage the power of its capital markets, because trade is now much more attractive than official development assistance to the developing world.

Moreover, fragile and in-conflict countries are compromising global stability and threatening U.S. national security with ongoing challenges, including health pandemics, a lack of stable energy supply, forced migration, international criminal activity, food insecurity, and massive unemployment.\textsuperscript{62} Failed, failing, and vulnerable states are breeding grounds for illicit activity and forced migration. Many young people in the “failing bottom” nations are unemployable or idle,\textsuperscript{63} and their countries exhibit an unpredictable distribution of social services and subpar enforcement of the rule of law. Low economic growth in these fragile states has prompted many families to seek employment in other countries, even if it means averting due process and risking their lives. Most undocumented immigrants who come to the United States are from the Northern Triangle (Guatemala, El Salvador, and Honduras), while Syria, India, Morocco, Pakistan, and Bangladesh make up the top five countries of origin for Europe’s migrants. The United States has failed to nation-build effectively for decades—we need a dramatic shift in our approach to nation-building, so U.S. taxpayer dollars are not wasted again and again.

Other non-state actors threaten the international liberal order. It is no surprise that many vulnerable young men, without opportunities in dysfunctional states, turn to violent extremist groups for a sense of purpose and security. Pervasive violence and corruption have encouraged the proliferation of Boko Haram in Nigeria, Al-Qaeda in Afghanistan, and ISIS in Syria—all of which have managed to hold a significant amount of national power in their respective countries. These states of the failing bottom require a different approach in U.S. foreign assistance from those that are developing more successfully.\textsuperscript{64}

**Updating Our Toolkit and Resetting Our Priorities**

The United States has a foreign assistance toolbox that is not only antiquated but slow in responding to changes in the developing world and the international liberal order. The United States needs to think more strategically about how to best engage the developing world, use foreign aid as a catalyst to attract private capital to developing countries, and help level the playing field with other foreign players through anticorruption efforts.

\textsuperscript{59} Ibid.  
\textsuperscript{62} Runde, *A Tale of Two Paths*.  
\textsuperscript{63} Ibid.  
\textsuperscript{64} Ibid.
procurement training, and trade facilitation. The United States needs an international economic strategy to engage with prospering developing countries as true economic partners. We need to use all instruments of U.S. soft power to regain our economic leadership in the world. We must recognize that there are more sustainable solutions to these problems that do more, both for our partners and for the American people.

The U.S. Congress has made consistent, dedicated funding for international development nearly impossible. Differing budgets and priorities every two to six years have delayed projects and produced mixed outcomes. The U.S. government should recognize that 11 of our 15 largest trading partners are former recipients of U.S. foreign assistance—strengthening engagement with the developing world should be a priority for both Republicans and Democrats. Foreign aid can help countries reach their economic potential and create better trading partners and more consumers for U.S. goods and services. Investing in the developing world can also forge stronger allies. By establishing trade partnerships with developing countries and investing in their economies, the U.S. economy and its citizens will gain both in the short and long run.

U.S. foreign assistance needs to shift towards a more catalytic role, encouraging greater private sector growth, procurement reform, workforce development, development of small and medium-sized enterprises, trade capacity building, and local market savings. Foreign governments are increasingly receptive to these kinds of approaches. Both our allies and our competitors are more active in the developing world than in previous decades—a fact the U.S. government must recognize. These countries use a more whole-of-government and partnership approach that better appeals to the leaders of developing countries in Africa and Asia. U.S. development agencies like the Millennium Challenge Corporation (MCC), Overseas Private Investment Corporation (OPIC), U.S. Trade and Development Agency (USTDA), USAID, and others all have development programs, but they all operate independently of one another, with minimal coordination. Congress or the White House must find a way to develop a cohesive strategy that leverages the resources of all U.S. development agencies, embassies, and Foreign Commercial Service attachés.

Furthermore, the United States has foreign policy tools that are currently underutilized. Enterprise funds are one such tool. Enterprise funds use U.S. government funding to invest in credit and private equity in emerging markets. U.S. enterprise funds have

already invested $1.5 billion in emerging markets’ private sectors and attracted billions in additional foreign investment that is managed by outside investment professionals.\textsuperscript{66} Authorizing a third wave of enterprise funds could further strengthen the U.S.’s relationship with its allies, spur private sector growth in the developing world, create a wider consumer base for U.S. products abroad, and generate jobs and proceeds that can be returned to the U.S. government.

The U.S. Development Finance Corporation (USDFC) is a new aid agency that will be operational in late 2019, with the goal of strengthening U.S. private sector engagement in the developing world.\textsuperscript{67} It will introduce financial tools such as first loss guarantees, local currency loans, equity investments, and the provision of small grants to make U.S. companies more competitive options for new projects abroad. The USDFC should collaborate with USAID and other aid agencies to ensure it maximizes its $60 billion funding cap.\textsuperscript{68}

The United States needs to strengthen key technical assistance programs in areas such as democratic governance and anticorruption, procurement training, and trade capacity building. Foreign governments around the world use nearly 50 percent of their budgets to procure goods and services.\textsuperscript{69} Many developing countries do not allow for outside players to participate in their bids and often follow very opaque procurement practices. If countries have open, transparent and professionalized procurement systems, this creates win-win opportunities for the country and outside bidders. The USTDA’s Global Procurement Initiative promotes competition and transparency in international procurement by training procurement officers abroad about leakages, life-cycle costs, and best-value approaches.\textsuperscript{70} Development activities that teach officials about leakages and proper bid pricing will allow U.S. businesses to win more procurement bids and enable them to become stronger partners with foreign governments. Other technical assistance programs that developing countries need are in the realm of trade facilitation. The MCC has assisted many countries with trade capacity building, which helps officials negotiate and implement trade agreements, through technical advice, training, and policy reforms. Over 20 U.S. agencies have trade capacity building programs, but funding is small and scattered. Only $1.2 billion of the 2016 U.S. foreign aid budget went towards trade capacity building activities in the developing world.

As countries develop, they will need more infrastructure investments. Billions of people today live without access to electricity, safe water, or improved sanitation. According to a study by the Global Infrastructure Hub, the developing world needs $3.7 trillion annually until 2030 to meet needs for network infrastructure (roads, railways, telecoms, power,
airports, etc.) needs. The World Bank has suggested that over the next ten years, sub-Saharan Africa will require nearly $1 trillion to finance its infrastructure gap. Germany, Japan, and China now win many infrastructure projects in the developing world because of the strong coordination between their government and private sector aid agencies. It is time for the United States to step up its own efforts to spread U.S. influence in the arenas of infrastructure and technology.

**Conclusion: Continuing to Lead**

The United States needs new tools if it wants to continue to lead in global development. Washington needs to craft an international economic strategy, strengthen U.S. bilateral agencies, and introduce new foreign policy tools to lead the newest version of the international liberal order.

U.S. foreign assistance must shift towards private sector solutions and resilient growth that strengthens infrastructure and democracy and reduces corruption in developing countries. We need to share this burden with other countries, but despite costs, it is in the United States’ best interest to lead and to continue to do so. “America First” does not mean America alone: the United States needs to utilize and strengthen all the important foreign policy tools at its disposal to lead more effectively on the world stage.

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72. Runde, Bandura, and Murphy, *Renewing U.S. Economic Engagement*.
73. Ibid.
6 | The Domestic Foundations of U.S. Economic Leadership

By Stephanie Segal and Dylan Gerstel

Introduction

Considerable ink has been spilled lamenting actions taken by the Trump administration that undermine the rules-based global economic order. The criticism is fair, but skepticism of the institutions at the center of that order predates the 2016 presidential campaign. The Obama administration blocked a judicial reappointment to the Appellate Body of the World Trade Organization (WTO) over concerns the institution had overstepped its mandate.74 Similarly, capital increases at the World Bank and International Monetary Fund (IMF) have long faced resistance on Capitol Hill from members objecting to so-called U.S. taxpayer-funded bail-outs.75 Still, suspicion of the rules and institutions designed to foster closer trade and financial linkages between countries grew during the 2016 presidential campaign. The sense that globalization hurts more than helps millions of Americans was evident in the presidential campaigns of both major party candidates. While President Trump blames trading partners for taking advantage of the United States, Americans’ economic anxieties stem from increasing income and wealth disparities and decreasing economic mobility, which are driven by factors that extend well beyond trade.

Then and Now

The Bretton Woods institutions emerged in the shadow of the Second World War, when the United States and its allies sought “a multilateral framework . . . to overcome the destabilizing effects of the previous global economic depression and trade battles.”76 At the time, the United States was the world’s largest economy, which gave Washington the

influence to shape and lead these new organizations, promoting an economic model that supported free trade and a rules-based order. Over the years, the focus on liberalization expanded from trade to include capital flows. The result was a period of both domestic and global economic expansion, leading to dramatic improvements in living standards and a historic reduction in poverty. Since 1950, the U.S. economy increased eight-fold, from $2.3 trillion to $18.6 trillion in real terms ($20.5 trillion in nominal dollars).\(^77\) Per person, real economic output in the United States nearly quadrupled, from about $15,000 to more than $56,000, while personal disposable income experienced an even greater increase.\(^78\)

The global economy experienced a similar trajectory. Strong growth lifted millions out of poverty: between 1981 and 2015, roughly 660,000 people, about the population of Washington, D.C., were lifted out of extreme poverty every week. The link between U.S. leadership of the global economy and growth that improved living standards around the world was a source of pride for most Americans, notwithstanding the legitimate argument that U.S. engagement abroad was driven as much (if not more) by domestic considerations as a desire to advance a liberal order for its own sake.\(^79,80\)

Today the United States is still the world’s largest economy as measured in US dollars, although its contribution to global gross domestic product (GDP) has been roughly halved – from over 40 percent in 1950 to about 24 percent in 2018.\(^81\) The smaller U.S. contribution to global GDP reflects other countries moving up the development ladder—consistent with the primary goal of the development institutions we helped to create—rather than U.S. decline. In fact, since 2010, the United States has enjoyed the highest average growth rate among the large, industrialized economies in the Group of Seven, outpacing even Canada and Germany. In terms of per capita GDP, the United States is in the top ten percent of all countries as measured both in U.S. dollars and in purchasing power. The U.S. economy has enjoyed uninterrupted net job creation every month since October 2010, and the unemployment rate remains below 4 percent for the first time in nearly two decades. The United States continues to be home to top-ranked universities and the most innovative companies, and it earned the top ranking in the World Economic Forum’s most recent Global Competitiveness Report, ahead of Singapore, Germany, Switzerland, and Japan.\(^82\)

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And yet, the economy remains a serious preoccupation for many Americans. According to a January 2019 poll by the Pew Research Center, 70 percent of respondents believe “improving the economy” should be the top priority for President Trump and the Congress, ahead of health care costs and education.83 (“Global trade” was well down on the list, ranking 18th, with only 39 percent of respondents listing it as a priority issue.) What’s more, calls to rethink, reimagine, and reform capitalism are gaining traction, including from those that have most benefitted from U.S. economic growth in recent decades. Jamie Dimon, Chairman and CEO of JP Morgan Chase, and Ray Dalio, founder of hedge fund Bridgewater Associates, both recently expressed their concerns about the future of capitalism and the lack of policy solutions to economic anxieties.84 A recent article in The Washington Post highlighted concern among billionaires in Silicon Valley that capitalism is broken, resulting in more and more wealth being concentrated in fewer hands.85 The data bear this out: while the economy is performing well in the aggregate, data on the distribution of economic gains point to increasing concentration among the wealthiest citizens. A system where the benefits accrue to a select few is precarious at best in a democracy, and hardly the stable foundation needed for U.S. leadership in a global economy.

Measuring Inequality

Wealth concentration or income inequality can be measured using a variety of metrics, but the most common is the Gini coefficient, which measures the extent to which the allocation of income among households in an economy deviates from a perfectly equal distribution. A Gini score of “zero” represents perfect equality, while a score of 1 implies perfect inequality. Research from the British economist Anthony Atkinson, a pioneer in the study of inequality, showed that household income inequality in the United States

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was stable from 1950 through the end of the 1970s, but then started to increase in the 1980s.\(^\text{86}\) Today, the Gini coefficient in the United States stands at 0.48, compared with 0.42 in 1985 and 0.39 in 1970.\(^\text{87}\) Using data from the Organisation for Economic Cooperation and Development (OECD), the United States ranks 33rd among 38 advanced and emerging market countries in net distribution of household incomes, between Lithuania and Turkey.\(^\text{88}\)

Other measures of income distribution also point to rising inequality. Research by the Federal Reserve Bank of St. Louis indicates that the share of earnings obtained by the top 1 percent of the population is substantially higher in the United States than in other advanced economies. Furthermore, top-earners’ share of income has trended upward in the United States over the last 50 years.\(^\text{89}\) Over this time, labor’s share of income has gradually declined while returns to capital, which is concentrated among wealthier households, have increased. Correspondingly, U.S. wealth concentration is now at levels not seen since before the Great Depression.\(^\text{90}\)

The 2008 global financial crisis, with its epicenter in subprime mortgage debt in the United States, exacerbated these trends. Data from the Federal Reserve Board’s triennial Survey of Consumer Finances show that U.S. households across all income segments lost part of their wealth between 2007 and 2009.\(^\text{91}\) Yet by 2016, only those in the top income


\(^{87}\) U.S. Census Bureau, Income Gini Ratio for Households by Race of Householder, All Races [GINIALLRH], retrieved from FRED, Federal Reserve Bank of St. Louis June 26, 2019 https://fred.stlouisfed.org/series/GINIALLRH.


decile had recovered, experiencing a net wealth gain of 11 percent between 2007 and 2016. Household wealth for the other 90 percent, especially middle-income households, remained far below pre-crisis levels nearly a decade after the crisis.

**Causes of Inequality**

Atkinson identified a number of factors that have likely contributed to rising income inequality in recent decades: the scaling-back of redistributive tax-and-transfer policies, the reduced role of labor unions, changing pay norms, and the growth of financial services. He also pointed to globalization and technological change, both particularly relevant in the present context, given the anti-globalization leanings of current policy and the accelerating adoption of new technologies such as artificial intelligence (AI) and machine learning in the workplace.

Supporting the view that trade has hurt certain workers in the U.S. economy, a landmark 2013 study by economists David Autor, David Dorn, and Gordon Hanson estimated that import competition, especially from China, could explain one-quarter of the loss of U.S. manufacturing jobs between 1990 and 2007. Still, the “China shock” that accelerated with China’s accession to the WTO is unlikely to have remained a driving force behind widening income inequality in the past decade. Compared with the period from 1990 to 2007, when China was a net exporter to the rest of the world, today China’s current account balance with the rest of the world is roughly in balance. More recently, researchers have increasingly emphasized the role of automation and technological change, noting the fundamental contribution of changing technology.

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94. Ibid.

to the disappearance of traditional blue-collar jobs and the improbability that such a process will reverse.\footnote{96}

Technology and automation are likely to contribute to rising inequality even as societies as a whole grow wealthier, as senior IMF researchers have argued in a recent book, \textit{Confronting Inequality}.\footnote{97} In addition to establishing technology as a contributor to rising income inequality in the past, the researchers model a future economy in which robots are “almost perfect substitutes for human labor.” Their model forecasts that economic output per person will rise, making countries richer; but they caution that the substitution of robots for human workers also means that income inequality will worsen as wages for positions substituted by robots are driven lower. Their model also forecasts an increasingly capital-intensive economy where overall economic returns disproportionately accrue to the holders of capital. While the model is forward-looking, the scenario is consistent with actual economic data showing increasing returns to capital and median wage stagnation.

\textbf{Why Should We Care?}

Economists and scholars actively debate how income inequality impacts economic outcomes.\footnote{98} While conventional economic wisdom sees a trade-off between economic efficiency and policies to lessen inequality, the IMF’s recent research on income inequality found that higher inequality is associated with less sustained growth, while redistribution can have a pro-growth effect. A related debate concerns social mobility, testing the ideal that anyone can get ahead with hard work and maybe a little luck. In fact, social mobility has declined as income inequality has risen. An influential paper by Harvard University’s Raj Chetty and others estimated rates of “absolute income mobility”—that is, the fraction of children who as adults earn more than their parents—and found that while 90 percent of people born in 1940 earned more than their parents at the same age, only 50 percent of people born in the 1980s made more than their parents.\footnote{99} This decline in mobility has

\begin{figure}[h]
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\caption{January 17, 2017, ABB robotic arms work on the body parts of Mini cars as they pass along a section of automated production line in London, United Kingdom. Photo: GEOFF CADDICK/AFP/Getty Images}
\end{figure}
been most pronounced for children born to middle class families.\textsuperscript{100} Chetty also found relative mobility, or the probability that a child born to parents in the bottom fifth of the income distribution reaches the top fifth, is almost twice as high in Canada and other advanced economies as in the United States.\textsuperscript{101}

Perhaps the most compelling argument for why we should care about income inequality is not an economic one; rather, high levels of inequality are of concern because they damage social cohesion. Richard Reeves, Director of the Future of the Middle Class Initiative at Brookings, notes that as the middle class shrinks in the United States, those remaining in the middle class feel left behind, and those with high and rising incomes separate both physically and psychologically from the less affluent.\textsuperscript{102} He cites work by political scientist Janet Gornick, who has found that wealthier families can effectively opt-out of public education and transport, thereby undermining support for the very public services that can help bridge opportunity gaps.\textsuperscript{103} During a seminar at this year’s Spring Meetings of the IMF and World Bank, the IMF’s managing director noted how excessive inequality hinders growth, erodes trust and fuels political tensions, while the World Bank’s chief economist blamed rising inequality for declining trust in democracy, owing to a view that “elites” have captured the economic gains at “the expense of the rest.”\textsuperscript{104} At a time of increasing social polarization in the United States, it stands to reason that rising inequality may be an important cause.

**What Can Be Done?**

Rising income inequality and falling economic mobility damage social cohesion in the United States and undermine U.S. leadership in the world. Moreover, rising inequality and declining opportunity are not self-correcting: without policy action, gaps will widen as technological advances concentrate gains among the wealthy. No single solution will redress inequality in opportunities and outcomes, but policies should start with three major targets: a more equitable distribution of economic gains; improved opportunities for all, especially in education; and improved mobility for workers.

First, redistributive policies concern government revenues (taxation), expenditures (social welfare), and wage policies such as minimum wage. Many factors that may be good for the economy in the aggregate, for instance, productivity-enhancing investments in automation, will have winners and losers: a factory investing in an automated assembly line or a law firm investing in AI platforms for document review will become more productive and more

\textsuperscript{100.} Richard V. Reeves and Katherine Guyot, “Fewer Americans are making more than their parents did—especially if they grew up in the middle class,” Brookings Institution, July 25, 2018, https://www.brookings.edu/blog/up-front/2018/07/25/fewer-americans-are-making-more-than-their-parents-did-especially-if-they-grew-up-in-the-middle-class/.

\textsuperscript{101.} Richard V. Reeves and Eleanor Krause, “Raj Chetty in 14 charts: Big findings on opportunity and mobility we should all know,” Brookings Institution, January 11, 2018, https://www.brookings.edu/blog/social-mobility-memos/2018/01/11/raj-chetty-in-14-charts-big-findings-on-opportunity-and-mobility-we-should-know/.

\textsuperscript{102.} Richard V. Reeves, “The condition of the middle class matters more than its size.” Brookings Institution, April 15, 2019, https://www.brookings.edu/blog/up-front/2019/04/15/the-condition-of-the-middle-class-matters-more-than-its-size/.


profitable, but some workers will be made redundant. Gains from these investments will accrue to the company’s owners, who may or may not increase wages for the employees that remain. According to the Pew Research Center, until very recently real average wages in the United States have stagnated, while corporate profitability has increased, suggesting that profitability gains don’t always “trickle down.”

Redistributing some of the gains—through taxation, wage floors, social spending and/or compensation—to assist workers on the losing side of technological progress can mitigate the distributional effects of such investments.

Second, education is an important piece of the inequality puzzle. U.S. spending on education is broadly in line with OECD peers, but educational outcomes in the United States as measured by standardized test scores are low among advanced economies and reflect a wide performance gap that is highly correlated with household income. Researchers at the Stanford Center on Poverty and Inequality found that the income achievement gap—the test score gap between children from high- and low-income families in the United States—is among the largest across the 20 advanced economies studied and has increased since the 1970s.

Their research shows that the income achievement gap is already well-established when children enter kindergarten; that gaps are lowest among countries with less differentiated education systems (e.g., low levels of tracking and a small private school sector); and that the widening income achievement gap in the United States has resulted mostly from children from families in the top half of the income distribution pulling away from their lower-income peers (rather than worsening outcomes at the bottom half of the income distribution).

Education reform is complex and politically fraught, but most policymakers would agree that the education system should aim to reduce rather than exacerbate inequalities. The researchers’ findings suggest that education in the United States works in the opposite direction. To reduce inequality, solutions should prioritize early intervention (before kindergarten), focus on the least well-off (rather than further advantage those that are already ahead), and address the negative implications of greater differentiation. Importantly, reducing disparities in educational opportunity should not come at the expense of the United States’ innovation leadership, meaning that efforts to level the educational playing field should not sacrifice spending in priority areas such as science, technology, engineering and mathematics (STEM) nor on higher education. Rather, overall spending in these areas should increase.

Third, Americans need to be able to pursue opportunities regardless of their geographic location. Gains from growth are not evenly distributed across the population by income level, nor by geographic region. A comparison of average family incomes shows widening economic disparities by region across the United States. Policies to foster mobility, for instance portable worker benefits, would allow workers to follow economic opportunities

without sacrificing economic security. Investment in technology and enabling infrastructures may reduce the need for physical moves to connect workers with the most dynamic parts of the economy.

Getting the United States back to a position of global economic leadership will require an accurate diagnosis of the source of economic anxieties at home and an honest, data-driven discussion of the factors that have led to the increasing disparity in outcomes. We should applaud the fact that issues of inequality are front-and-center in today's political discourse and not miss the opportunity to effect change that can benefit all Americans as well as the global economy.
**About the Authors**

**John Hamre** was elected president and CEO of CSIS in January 2000. Before joining CSIS, he served as the 26th U.S. deputy secretary of defense. Prior to holding that post, he was the under secretary of defense (comptroller) from 1993 to 1997. As comptroller, Hamre was the principal assistant to the secretary of defense for the preparation, presentation, and execution of the defense budget and management improvement programs. In 2007, Secretary of Defense Robert Gates appointed Hamre to serve as chairman of the Defense Policy Board, and he served in that capacity for four secretaries of defense. Before serving in the Department of Defense, Hamre worked for 10 years as a professional staff member of the Senate Armed Services Committee. During that time, he was primarily responsible for the oversight and evaluation of procurement, research, and development programs, defense budget issues, and relations with the Senate Appropriations Committee. From 1978 to 1984, Hamre served in the Congressional Budget Office, where he became its deputy assistant director for national security and international affairs. In that position, he oversaw analysis and other support for committees in both the House of Representatives and the Senate. Hamre received his Ph.D., with distinction, in 1978 from the School of Advanced International Studies at Johns Hopkins University and his B.A., with high distinction, from Augustana College in Sioux Falls, South Dakota.

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James Andrew Lewis is a senior vice president at CSIS and director of the Technology Policy Program. Before joining CSIS, he worked at the Departments of State and Commerce as a Foreign Service officer and as a member of the Senior Executive Service. His government experience includes a broad range of political-military, negotiating, and intelligence assignments, including leading the U.S. delegation to the Wassenaar Arrangement Experts Group on advanced civilian and military technologies. He worked on presidential policies on a range of topics, including securing and commercializing the internet. He was the Commerce Department lead for national security and espionage concerns related to high-technology trade with China. Formerly, Lewis was the rapporteur for the UN Group of Government Experts on Information Security. He has led long-running Track 1.5 discussions on cybersecurity with the China Institutes of Contemporary International Relations. He has served on several federal advisory committees, including as chair of the Committee on Commercial Remote Sensing. He was the director for CSIS’s Commission on Cybersecurity for the 44th Presidency and is an internationally recognized expert on cybersecurity. He received his PhD from the University of Chicago.

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