

How Nine Flawed Policy Concepts Hinder the United States From Adopting the Advanced-Industry Strategy It Needs

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Few policymakers and even fewer pundits or economic analysts understand U.S. competitiveness problems in a way that would lead them to the logical conclusion that a national innovation and competitiveness strategy would count as a viable solution.

KEY TAKEAWAYS

- Over the last two decades, the U.S. economy has lost its competitiveness edge, with deleterious effects on national security, economic growth, and job quality.
- America has the ability to turn this around and regain its competitiveness in advanced industries, but it will not be easy and will only happen if Congress puts in place a robust and well-funded national innovation and competitiveness policy.
- Before policymakers can act, there needs to be a reasonably widespread consensus that there is a problem and there is a role for policy in solving it. When it comes to competitiveness and productivity, too many in Washington don't recognize this.
- While a growing number of people in Washington believe government should act, many believe the scope of that action should be quite circumscribed.
- Support for a national strategy will only become more widespread when policymakers successfully navigate the logic chain from acknowledging there is a problem to recognizing the need for a sector-based response.

OVERVIEW

The United States is the only developed nation without a comprehensive strategy to improve the competitiveness of its advanced industries. Both a hyper-partisan political environment and stakeholder resistance play some role in explaining this anomaly, but the main culprit is conventional wisdom. Few policymakers and even fewer pundits or economic analysts understand U.S. competitiveness problems in a way that would lead them to the logical conclusion that such a policy would count as a viable solution.

To be sure, this deficit of the mind—tied up in a morass of Washington “group think”—has gotten decidedly better in the last few years as it has become clearer to many on both sides of the aisle that the United States needs to act, if only to counter the growing hegemony and technology leadership of China. But economic policy is as slow and difficult to turn as an ocean tanker—and the first step in the painstaking work of building support for policies to boost U.S. advanced industry competitiveness is entirely reprogramming the logic chain that has been holding Washington on the same course for so long.

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THE CASE FOR ACTION

Before describing the chain of logic that points directly to the need for an advanced-industry strategy, it’s important to lay out the case for some sort of action. In short: Over the last two decades, the U.S. economy has lost its competitiveness edge.

Perhaps the most obvious sign of U.S. economic decline has been the erosion of the country’s manufacturing base. From 2001 to 2010, the United States lost 42,400 factories (three-quarters of which employed at least 500 workers while in operation), 32 percent of its manufacturing jobs, and much of its technical edge.¹

Since then there has been further erosion. From 2007 to 2019, while GDP grew by 22 percent, real manufacturing value-added grew by just 5.6 percent. As a result, manufacturing’s share of gross domestic product (GDP) fell from 13.2 percent to 11.4 percent. This also obscures significant differences within industry sectors. All of the eight nondurable goods sectors (such as paper, chemicals, and plastics) produced less in absolute terms in 2019 than they did in 2007. Moreover, as a number of analysts—including the Information Technology and Innovation Foundation (ITIF)—have shown, the Bureau of Economic Analysis (BEA) significantly overstated the output growth of the computer sector (NIACS 334) because it assumes that when a computer doubles in speed due to Moore’s Law, actual output also doubles. Leaving out the production of computers—most of which has moved overseas—U.S. manufacturing output actually declined by 3 percent.

Just as troubling is that U.S. manufacturing is in a productivity slump. In 15 out of 18 years from 1990 to 2007, manufacturing productivity grew faster than overall non-farm business productivity, often by more than twice as much. But between 2008 and 2019, manufacturing

productivity grew faster in just 3 of the 12 years. In 2019, while business productivity grew 1.9 percent, manufacturing productivity grew just 0.1 percent. One reason for this might be U.S. manufacturers increased capital expenditures by just 17 percent between 2008 and 2017 (the latest year for which data is available), or one-third the rate of the information sector (e.g., Internet, communications, etc.). Without robust productivity growth, manufacturing gets less competitive globally, which is why it grows more slowly than GDP.

One would think, with manufacturing productivity growing more slowly than the rest of the economy, job growth would be robust (and as other sectors become relatively more efficient). But at the end of 2019, manufacturing employment was still 6.5 percent below its pre-recession levels.

Many once-iconic U.S. advanced-industry firms have lost significant global market share or even gone out of business.

But even if America is losing manufacturing, surely it is still leading in innovation, right? So goes the thinking (as if manufacturing is not innovative). But on many measures, when controlling for the size of the economy—such as government and business research and development (R&D) expenditures and patenting—the United States is no longer the leader. It ranks 12th in patent cooperation treaty patents filed as share of GDP, 23rd in researchers per capita, 27th in high-tech exports as share of trade, and 44th in scientific and technical articles as a share of GDP.² Moreover, in 2019, the United States ran an all-time-high trade deficit of \$132 billion in advanced technology products, down from a \$4.5 billion trade surplus in 2001.³ With China, the trade deficit in electronic products was \$184 billion in 2017, as U.S. exports totaled just \$21 billion.⁴

Also, many once-iconic U.S. advanced-industry firms have lost significant global market share or even gone out of business. *Forbes* issues a list of the top 2,000 firms each year. To be sure, from 2006 to 2019, a number of U.S. technology firms increased their global ranks significantly, particularly in software (e.g., Microsoft); semiconductors (e.g., Intel, Micron, and Nvidia); and Internet services (e.g., Facebook). But many hardware and related firms either lost ground or went out of business. Once-global leaders such as Lucent, Motorola, and Nortel (a Canadian firm that at one time employed thousands of U.S. workers) are now defunct. And leaders such as IBM, Hewlett Packard, Agilent (formerly part of HP), and General Electric all fell significantly. (See table 1.)

This decline has two underlying causes. The first is domestic: a failure to keep up with other nations on putting in place the best policies to spur manufacturing and innovation, including a competitive R&D tax incentive, education and training policies, support for infrastructure, and science and technology policies. The second is foreign countries are competing more fiercely (and often unfairly) to attract and grow traded industries. The most important competitor is China, which in 2006 pivoted to a goal of dominating most advanced technology industries, later doubling down with its Made in China 2025 plan.

Table 1: Select U.S. technology firm rankings on the “Forbes 2000” list (*unranked or no longer in business)⁵

Firm	2006	2019	Change in Rank
Facebook	*	63	NA
Nvidia	1,494	529	965
Micron	1,148	206	942
Alphabet/Google	439	17	422
Apple	283	6	277
Oracle	240	92	148
Qualcomm	392	310	82
Boeing	93	49	44
Cisco	117	74	43
Microsoft	55	16	39
Applied Materials	472	435	37
Intel	74	44	30
United Technologies	108	78	30
Corning	617	591	26
eBay	524	533	-9
IBM	23	60	-37
Hewlett Packard	67	279	-212
General Electric	2	389	-387
Agilent	591	1,094	-503
Nortel	851	*	NA
Sun	808	*	NA
Lucent	484	*	NA
Motorola	124	*	NA

A NATIONAL ADVANCED-INDUSTRY STRATEGY

America has the ability to turn this around and regain its competitiveness in advanced industries, but it will not be easy and will only happen if Congress puts in place a robust and well-funded national innovation and competitiveness policy.

As ITIF has outlined in other reports, this policy would lower effective corporate tax rates by establishing robust incentives for companies to invest in U.S.-based building blocks of growth and competitiveness, including R&D, workforce training, capital equipment, and software.⁶

It would continue the Trump administration's effort to confront with resolve the rampant innovation mercantilism practiced by some of America's trading partners, especially China. But it would do so more systematically, with the cooperation of U.S. allies.

It would significantly increase funding for a wide array of technology initiatives, including more funding for early stage, applied, and cooperative research between industry and universities; programs to help small and mid-sized manufacturers become more innovative and productive; partnership programs with states to spur technology-based economic development; and programs to spur digital transformation in sectors such as health care, transportation, smart grid, and others. It would increase funding and drive institutional innovation in K-12 and college and university systems to produce more and better STEM (science, technology, engineering, and mathematics) graduates while at the same time enabling more STEM-based immigration.

There are growing bipartisan efforts to move in this direction. The bipartisan Endless Frontier Act would have the federal government invest \$100 billion over 10 years in federal R&D focused on 10 critical industries, such as high-performance computing and automation technology. And in an important step toward realizing America needs sector-based industrial policies, the Senate recently introduced two bills focused on revitalizing U.S. semiconductor manufacturing.⁷ The Biden campaign also has announced a proposal to invest \$300 billion to support R&D in advanced industries.⁸

But while these are important measures, they have yet to cross the finish line in the Appropriations Committee. Moreover, they are not enough.

Washington could do these things and more if there were political will to get them done. Why is there so little of it? First, too many policymakers, pundits, and purported experts continue to deny there is a problem. And second, even among those who believe there is a problem, most view the problem and solutions in a way that precludes the needed array of actions from being adopted.

Changing policies thus will require changing minds. What follows are the nine most important flawed concepts that must be dispelled. They come from across the ideological spectrum and are divided into two groups: ideas that prevent people from recognizing the need to act, and ideas that limit support for the right response, even among those who acknowledge the need for action.

FIVE REASONS POLICYMAKERS FAIL TO RECOGNIZE THEY SHOULD DO ANYTHING TO ADDRESS INNOVATION AND COMPETITIVENESS

Before policymakers can act, there needs to be a reasonably widespread consensus that there is a problem, and a role for policy in solving it. When it comes to competitiveness and productivity, too many in Washington don't recognize this.

Flawed Concept #1: There Is No Problem

Just as Alcoholics Anonymous counsels that the first step toward overcoming alcoholism is to admit that one is an alcoholic, the first step toward restoring America's advanced-industry competitiveness is to admit that it has lost ground. Unfortunately, too many in Washington argue all is well, even in the face of disturbing evidence to the contrary. Indeed, the consensus view among many policy elites is that America has been number one, is still number one, and will continue to be number one.

This triumphalist framing serves as an opioid for the Washington establishment. It can breathe easier if the once-justified claims about America's economic superiority are endlessly repeated. Not only have their long-held policy nostrums not been called into question, but they seem to believe they can hold back policy change—both good and bad—by continuing to deny the reality of decline. That this predictable but ill-advised reaction pattern simply kicks the can of overdue reform down the road, and even accelerates the very decline that triumphalists categorically deny is even conceivable, evidently does not concern many of the elites and their appointed soothsayers. They have no interest in reconsidering elements of the “established” order.

Just as Alcoholics Anonymous counsels that the first step to overcoming alcoholism is to admit that one is an alcoholic, the first step to reversing America's slide in the race for global innovation advantage is to admit that we are slipping.

There are two main strains of triumphalist sentiment. The first comes from the U.S. foreign policy establishment, which cannot envision national decline under its watch. In its view, the United States is firmly ensconced as the “shining city on the hill.” While there may be occasional bumps in the road—such as the Trump presidency—nothing can keep the United States from fulfilling its pre-ordained destiny. Harvard's Joseph Nye, with his claim that “America may not actually be declining, but those predicting it are ascending,” is the patron of this group.⁹ Larry Summers reinforced this view when he wrote, “In many ways, U.S. concerns over China and technology parallel concerns over the Soviet Union in the post-Sputnik missile gap period just before President John F. Kennedy's election in 1960. Or over Japan in the late 1980s and early 1990s, when it was often joked that ‘the Cold War is over and Japan won.’”¹⁰

The second group is bankers and investors who view the U.S. economy through a distinctly financial lens and see nothing but success, which for them is true. They ignore production in favor of financial metrics, especially the strength of the dollar and the stock market. And they are unperturbed in their rugged advocacy of shareholder capitalism, believing that strong, short-term financial metrics equate to a well-functioning economy and society. The latest version of someone giving voice to this point of view comes from Ruchir Sharma, the chief global strategist at Morgan Stanley Investment Management. In his article “Comeback Nation: U.S. Economic Supremacy Has Repeatedly Proved Declinists Wrong” featured in the May/June 2020 issue of

Foreign Affairs, Sharma told a happy story, one that could only be told by someone on Wall Street.¹¹ Indeed, the illustration highlighting the article shows two smiling, fist-bumping stock traders. For them and Sharma, financial metrics—rather than production system metrics—determine success. Sharma argued that the U.S. economy has never been stronger (leaving aside the COVID-19 economic crisis): “During the 2010s, the United States not only staged a comeback as an economic superpower but reached new heights as a financial empire, driven by its relatively young population, its open door to immigration, and investment pouring into Silicon Valley ... the 2010s turned out to be a golden decade.” A golden decade if you are a shareholder or Wall Street trader—since stock market values boomed—but not a golden decade for the trade deficit, productivity growth, or wage growth.

From the time of Alexis de Tocqueville to the present day, there has been a long strand of thinking that holds that America is qualitatively different from other nations, and for many this means qualitatively better—which is to say, exceptional. To acknowledge that the U.S. economy is no longer the innovation leader directly challenges this deeply held American belief.

Some argue that the reason for this denial is that, as for the proverbial frog in the boiling water, the temperature of economic decline has been rising too gradually for most to notice. They hope for a “Sputnik moment” that will finally serve as a wake-up call. When the Russians launched a satellite that orbited our skies, it was clear America had been trumped. But another Sputnik moment for competitiveness is unlikely, and if policymakers cannot act without such an impetus, then they won’t act.

Why the dogged resistance to looking challenges squarely in the face? One reason is acknowledging there is a problem opens the political door to solutions that would make things worse, not better, such as raising taxes on U.S. multinationals, engaging in naked protectionism and enforced reshoring and strict “Buy American” provisions, or requiring U.S. companies be controlled by their workers.¹² But accepting that there is a crisis also means accepting that while U.S. policymakers’ long-held beliefs once worked, they are no longer working, and new policies—ideally the right policies—are needed. Unfortunately, it is easier to keep doing and believing as before, denying the existence of the problem. As T.S. Eliot wrote, “Humankind cannot bear very much reality.”

Flawed Concept #2: The Massive U.S. Trade Deficit Is Our Fault (i.e., We Don’t Save Enough)

One key indicator of America’s competitiveness challenge is its chronic trade deficit. While the U.S. trade balance has been in deficit for more than three decades, it has grown considerably worse since 2000. Over the last decade, the United States has accumulated an astounding aggregate \$5.5 trillion negative trade balance in goods and services.¹³ The U.S. share of world exports has declined from 17 percent to 11 percent, even as the European Union’s share has held steady at 17 percent.¹⁴

Yet the story most conventional (neoclassical) economists tell is that the trade deficit is a simple accounting function: Low U.S. savings requires overseas borrowing, which by definition requires running a trade deficit. Greg Mankiw reflected this conventional view when he wrote, “My view is that the trade deficit is not a problem in itself but is a symptom of a problem. The problem is low national saving.”¹⁵ The Council on Competitiveness agreed, stating, “These threats [e.g., the

trade deficit] stem from global financial imbalances rather than from the inability of American companies or American workers to compete in global marketplaces.”¹⁶

For years, the United States had among the highest corporate tax rates in the world. It has failed to match many foreign nations’ investments in research, and has deteriorating infrastructure. But by definition these factors can have no effect on the ability of business establishments in the United States to thrive in international markets. Because that is determined by our savings rate. In this sense, the defenders of the Washington Consensus have by sleight of hand taken off the table one of the most important indicators of declining competitiveness: the trade deficit.

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But as non-neoclassical economist Robert Blecker stated, “This identity does not prove causality, and is consistent with other causal stories about the trade deficit.”¹⁷ In other words, what the conventional story fails to recognize is that savings is a function of national competitiveness. If, for example, the Chinese stopped stealing U.S. intellectual property (IP) and subsidizing their own exports, then the U.S. trade deficit would fall. And if the U.S. dollar were to fall, then the result would be a rise in both U.S. exports and interest rates—both of which would spur more savings. Higher interest rates would lead more Americans to save. More exports (and relatively fewer imports) would boost U.S. corporate savings. And more jobs and higher wages, which come with more exports, would boost individual savings and reduce the budget deficit. In fact, jobs in exporting firms pay 9.1 percent more than jobs in firms that export less.¹⁸ So rather than look at the trade deficit as the result of low national savings, it’s more accurate to look at low savings as a function of the trade deficit.

Flawed Concept #3: The United States Is Not in Competition With Other Nations, Only U.S. Companies Are

Countries put in place innovation and competitiveness policies in order to better compete with other nations. But if you don’t believe the U.S. economy is in competition, a competitiveness policy would have as much use as an inflatable dartboard. Remarkably, a large share of U.S. elites do not believe the United States competes with other nations.

This perspective originates from misguided advice proffered by neoclassical economists. Indeed, Paul Krugman reflected the Washington Consensus when he wrote in the mid-1990s, “The notion that nations compete is incorrect ... countries are not to any important degree in competition with each other.”¹⁹ Congressional Research Service economist Jane Gravelle agreed, stating that international competitiveness is a “term without rigorous meaning.”²⁰

Krugman and Gravelle reasoned that while companies sell products that compete with each other, the companies and consumers in these nations are also simultaneously each other’s main export markets and suppliers of useful imports. In Krugman’s view, other nations gaining a larger share of high-value-added production benefits the United States by providing larger export markets and access to superior goods at a lower price. In other words, even if the United States loses most of its high-value-added traded sectors (e.g., aerospace, pharmaceuticals, software,

semiconductors, etc.), it would still benefit because consumers would have access to cheaper products, and the producers that remain would have access to larger export markets.

It's not just conservatives and neoclassical economists who don't think the U.S. is in competition with other nations, many progressives believe that as well. Kevin Drum, of the progressive magazine *Mother Jones*, wrote, "Even if we want an industrial policy at all—a dubious proposition—we really don't want an industrial policy focused on manufactured goods."²¹ Rather, because we are not in competition, even with China, he favors simply strengthening unions as a way to raise wages. Likewise, writing in *The Nation*, Tobita Chow argued recently that the "trade war" was started by the United States, it is harmful to U.S. workers, and "The only way out is to radically transform the global system, a project that will require greater cooperation, not competition, between Washington and Beijing."²²

Likewise, Jared Bernstein wrote approvingly last year of the argument "that we should welcome the diffusion of technology and rise of emerging economies. That's what globalization is supposed to be about!"²³ In part, this is because the left sees economic conflict not so much as between nations, but as between labor and capital, and the rise of China and other emerging economies has helped labor, so it is generally something to be favored.

But the reality is that if the United States were to lose high-value-added sectors due to rising imports, then by definition sectors with lower value added would take their place. And again, by definition, this would mean lower productivity and lower U.S. wages. And since the vast majority of U.S. consumers are also U.S. workers, they would consequently have less purchasing power to consume these imports.

Flawed Concept #4: Potato Chips, Computer Chips: What's the Difference? (i.e., Manufacturing Doesn't Matter)

Related to the idea that nations don't compete with other nations is the notion that America can be indifferent to its national sectoral mix. Indeed, perhaps no canard has been more damaging to the prospects for putting in place a national innovation and competitiveness strategy than the belief that America cannot only afford to be, but actually should be, indifferent to what industries comprise the U.S. economy. *New York Times* economics writer Binyamin Appelbaum reflected this view when he tweeted, "I cannot believe it's 2020 and our presidential candidates are still focused on manufacturing jobs."²⁴

Reflecting this long-held view among economists, President George H.W. Bush's economic advisor Michael Boskin memorably quipped, "Potato chips, computer chips, what's the difference? A hundred dollars of one or a hundred dollars of the other is still a hundred dollars."²⁵ But there is a difference, and it is profound. First, some industries, such as semiconductor microprocessors (computer chips) can experience very rapid growth and reductions in cost, spark the development of related industries, and increase the productivity of other sectors of the economy. In essence, spillover effects from computer chips make potato chip manufacturers more efficient. Moreover, jobs producing computer chips have higher productivity and require a higher skill level and thus pay more than jobs producing potato chips.

But even if some skeptics buy into the notion that some industries are more important than others, many others believe manufacturing itself is not important. They make this claim because, like the potato-vs.-computer chips fallacy, they believe there is little difference between car

manufacturing and car rentals. Columbia University's Jagdish Bhagwati has gone so far as to dismiss anyone who says manufacturing is important as suffering from a "manufacturing fetish."²⁶ Kenneth Green, a scholar at the American Enterprise Institute, has written, "As long as China is selling us the products we need, the location of manufacturing isn't really that critical for the economy."²⁷

But why should the Chinese continue to sell America the products it needs if they are getting nothing in return except pieces of paper? The only reason they are doing so now is so they can gain competitive advantage in these sectors. Without a healthy manufacturing base, it will be virtually impossible for the United States to balance its trade account. If Americans are going to continue to import large volumes of HDTVs, T-shirts, and sports cars, then eventually they must have something other nations want to buy in exchange—that's why it's called "trading" and not "borrowing." The bill the country runs up every year by buying more imports than it sells in exports will have to be paid eventually, because foreign nations demand payment in real goods and services. But the longer U.S. policymakers wait to revitalize high-value-added manufacturing, the larger grows the national debt that today's generations are passing on to their children. Moreover, hollowing out manufacturing, especially advanced manufacturing, means U.S. adversaries such as China will be able to gain a sustainable advantage over the United States, both economically and militarily.

Flawed Concept #5: Free Markets and Unshackled Entrepreneurs Are Enough

It's one thing to acknowledge the problem and admit the United States is in stiff competition, it's quite another to argue that a proactive strategy is needed to do something about it. And some who acknowledge the problem think the solution is for government to largely get out of the way. Writing for the Heritage Foundation, Nicholas Loris summed up the view with the title of his recent article, "Free Markets Will Cure the Economy."²⁸ Likewise, Mercatus Center scholar Veronique de Rugy wrote last year that rather than adopting a national industrial strategy, "we should stick with the time-honored policies that have made the United States the titan to topple in the first place: free trade, competitive markets, reasonable regulations and the rule of law."²⁹

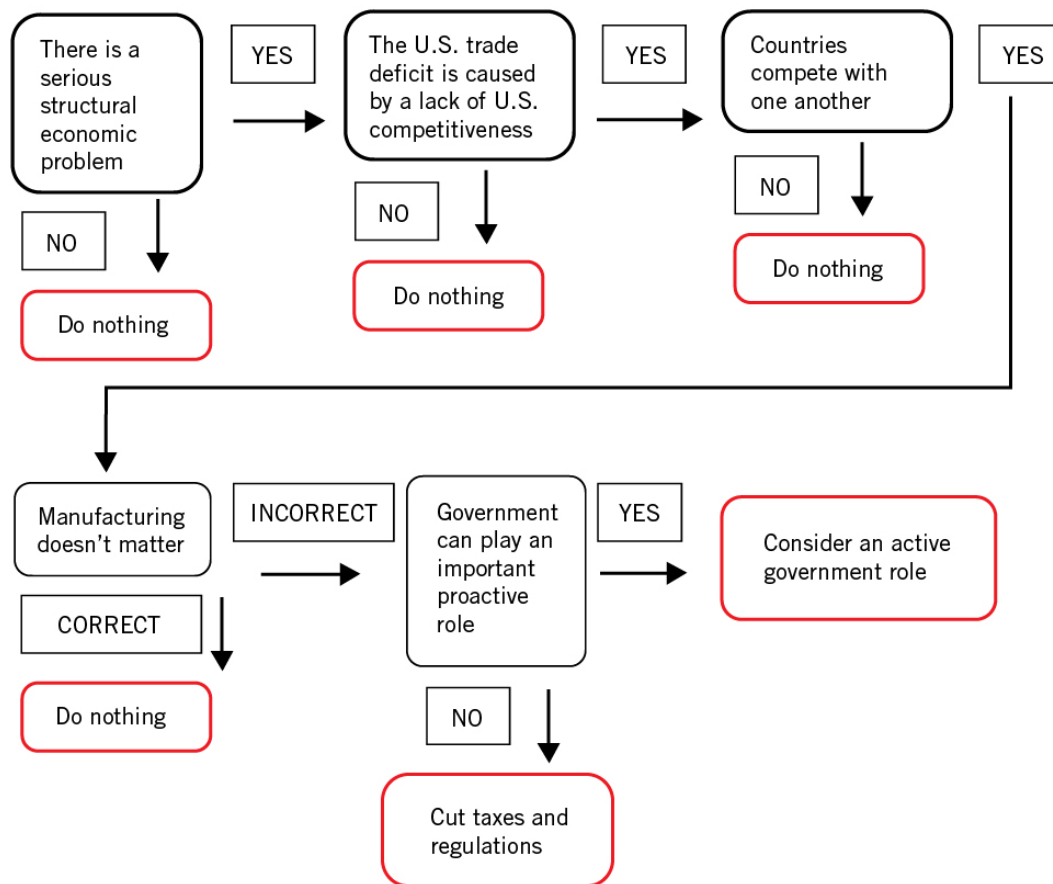
The neoclassical playbook holds that when it comes to innovation, market failures are few, and the most important thing government can do is let markets allocate goods, services, and knowledge. The de facto assumption is that the market is working, and the burden of proof is on advocates to make the case as to why individuals and organizations don't automatically act in their own interest; why that action doesn't maximize growth and innovation; and why government action doesn't automatically make things worse.

Moreover, many assume that government is always bad at supporting innovation, either because of political manipulation or bureaucratic failure. In fact, for many of them, any industrial strategy is indistinguishable from the Soviet Union's Gosplan. But historically the federal government's strategic support for new technologies such as the Internet, GPS, relational databases, Internet search technology, aviation, computing, gas turbines, wind power, and many others has been a critical feature that has enabled entrepreneurs and enterprises to take these technologies to market commercialization.³⁰

In short, creating and implementing a competitiveness strategy is not a nod to Soviet communism—much less big government—for having a strategy is simply a way for the United States to understand what it needs to do, whether it's to cut the effective corporate tax rate,

reduce regulatory red tape, expand research funding, target technology areas with massive public rates of return, or help small manufacturers become more productive and innovative. Indeed, since the mid-20th century, most governors, regardless of their party affiliation, have put in place policies to tilt the playing field so corporations create higher-value-added jobs in their states. These governors, Republicans and Democrats alike, recognize markets generally create prosperity, but that in nationally (now internationally) competitive markets, prosperity will not automatically occur within their particular state's borders. They understand the necessity of going beyond letting firms alone determine the location of high-value-added economic activities; that's why they "intervene" in their economies with activist economic policies such as workforce development programs, industry-university research centers, R&D tax incentives, and favorable regulatory climates. The fact that many state economies are in trouble is not a reflection of the effectiveness of these policies, but rather a reflection of the lack of these policies at the national level.

Figure 1: The logic chain for government action



FOUR WAYS PUNDITS AND POLICYMAKERS MISUNDERSTAND WHAT SHOULD GOVERNMENT DO

Even if the Washington policy community agrees the United States faces a serious competitiveness challenge and needs a proactive federal policy, the key question is what kind of policy? While there are many in Washington who believe the government should act, many think the scope of that action should be quite circumscribed.

Flawed Concept #6: Capital Accumulation Is the Key

For many economists, the single most important driver of growth is known as “capital accumulation” (e.g., higher amounts of investment), and since investment requires savings, the single most important thing government can do to spur growth is to enact policies that boost national savings. For conservatives, this means boosting private savings through tax cuts on top marginal rates and capital (capital gains and dividends), thereby giving wealthy individuals more capital to invest in the economy. In 2000, Larry Kudlow, now President Trump’s economic advisor, stated, “Tax-cut incentives will promote capital formation, productivity, jobs, and growth.”³¹ For moderates, it means boosting public and private savings, reducing budget deficits, and helping low-income people save more.³² Former Obama administration Office of Management and Budget head Peter Orszag reflected this belief when he stated, “The fundamental benefit of higher national savings—achieved by preserving a substantial portion of the projected budget surplus—is that it will expand economic output in the future.”³³

In either case, the policy is clear: Ensure high levels of saving (public and private) because doing so creates the capital pools needed for investment, which in turn drives economic growth. When this is the conviction held by most policymakers, tax cuts on individuals and budget cuts to rein in federal spending easily trump public investments in research, infrastructure, and skills as a way to drive growth and competitiveness.

The only problem with this view is that in the innovation economy it is not the amount of capital that drives growth, but the demand for capital—and that demand comes from innovation. As U.C. Berkeley economist Brad DeLong has explained, “Growth accounting studies in the tradition of Solow have found that capital deepening is responsible for only a small part of advances in labor productivity.”³⁴

Moreover, in an environment where there is a surplus of capital and record-low interest rates, it is increasingly difficult to keep up the fiction that the supply of capital is the key driver of investment and competitiveness.

Flawed Concept #7: Start-Ups and New Technologies Are Enough

Capitalist economies are evolutionary systems wherein new kinds of activities, products, services, firms, occupations, industries, and business models constantly replace older ones. This evolutionary rate differs over time and space, depending on a variety of factors, including the pace of technological advancement, entrepreneurial effort, and the domestic and international competitive environment.³⁵ Nonetheless, as Joseph Schumpeter wrote, this process of “industrial mutation” is one that “incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.”³⁶

However, many in Washington interpret Schumpeter to mean that innovation policy is only about speeding up the evolutionary process by supporting the more-rapid emergence of newer entrepreneurial activities and technologies. In other words, it’s all about speeding up firm (and technology) birth, not about extending the lives of existing firms and technologies. That is, it’s all about “new,” not “renew.” As such, the favored policies focus on speeding this introduction of front-end innovation through programs and policies to spur firm start-up and commercialization of new technology breakthroughs, as well as tough antitrust enforcement, and increasingly limits on how big firms can get.

In fact, for some “creationists,” any concern about slowing the loss of U.S. jobs is a waste of time at best, and downright harmful at worst. For example, investor and columnist Zachary Karabell wrote in *The Washington Post* that since China steals so much U.S. IP and engages in so much forced technology transfer, it’s pointless to try to fight it. We should give up the fight to slow this “execution rate” and instead try to develop both new IP and firms that will use it faster than the Chinese can steal it.³⁷ Likewise, Council on Foreign Relations scholar Adam Segal has said that “we can’t compete with China on hardware (e.g., making things),” but we can on software (ideas and innovation), and “an important first step will be helping small start-ups.”³⁸

The reality is no matter how many new firms we create, if we don’t slow down firm death and contraction by reducing foreign innovation mercantilism and helping existing U.S. firms to become more productive and innovative, we will find ourselves like Alice in Wonderland, where it takes “all the running you can do, to keep in the same place.” We can’t afford to let China manipulate the global trading system to steal American IP or force U.S. firms to transfer ownership of their technology.³⁹ Hoping, for example, that somehow American biotech and pharmaceutical firms will come up with new breakthroughs (and the U.S. jobs associated with them) faster than China and other nations can steal life-science IP (in part by forcing U.S. pharmaceutical firms to go off-patent sooner than otherwise would be the case, or to transfer IP at very low prices—or even for free) is fanciful at best, and just plain wrong at worst.

If we don’t slow down firm death and contraction by reducing foreign innovation mercantilism and helping existing U.S. firms to become more productive and innovative, we will find ourselves like Alice in Wonderland, where it takes “all the running you can do, to keep in the same place.”

At the same time, we also can’t afford to ignore the competitive challenges of existing firms and industries. Slowing down the death and contraction rate—or even reversing it—not by protectionism and resistance to innovation, but by helping these firms better compete in global markets, is required, because births alone will never be plentiful enough to create the jobs we need.

Flawed Concept #8: All We Need Is Better Innovation “Inputs”

Among those who recognize the need for government to act all along the innovation cycle and in all industries, many believe this role should be limited to simply supporting factor conditions and inputs that all firms can benefit from (e.g., free trade, better education, a good regulatory system, basic research, antitrust enforcement, etc.). For them, the problem is not within enterprises, it’s that enterprises lack the necessary inputs for successful innovation. Emblematic was a 2006 report from the Council on Competitiveness, which argues, “Education is perhaps the single biggest threat to future American prosperity.”⁴⁰ This absolves companies and the U.S. financial system from any responsibilities they might have to take the right steps to support U.S. competitiveness.

But while government surely needs to do more to support “factor conditions,” doing only or even principally that is woefully inadequate to ensure the United States regains its competitive position. The notion that just getting factor conditions right is enough is clearly rebutted by studies of sectoral differences in productivity levels across nations. As Bill Lewis, former head of the McKinsey Global Institute, demonstrated in *The Power of Productivity*, if factor conditions

were the key, then there would not be dramatic differences in productivity in sectors (relative to global best practices) in particular nations.⁴¹ But there are, and these differences account for the lion's share of productivity differences between nations. As a 2010 report from the McKinsey Global Institute explains, "Global competitiveness of industry sectors in countries such as Japan, Korea, and Finland vary immensely, despite the fact they all exist under the same macroeconomic policy rubric ... sectoral policy factors largely explain these differences in outcomes."⁴²

It's only policies that are grounded in deep sectoral understanding that can ultimately drive productivity and innovation effectively. In other words, effective innovation policy has to go beyond simply supporting factor conditions that all firms can use; it has to go inside the "black box" of the firms to help them and key industries thrive. This means effective innovation policy includes things such as much stronger R&D credits; programs to help small and mid-sized manufacturers adopt new technology; policies focused on key technologies (such as advanced batteries, robotics, and artificial intelligence) and key industries (such as broadband, clean energy, semiconductors, IT, and life sciences). While it is generally inadvisable for governments to pick specific winner companies, or narrow technologies, they can and should pick broad technologies and industries to support.

Flawed Concept #9: We Can Win Without Helping Big Corporations, Especially Multinationals

Finally, even when some pundits, advocates, and policymakers recognize there is a problem and see government as having a key role—including an active technology policy to help companies—it has become increasingly popular to oppose policies that directly or indirectly help big companies, particularly large multinational corporations. For these advocates, businesses—especially large multinational corporations—are part of the problem, not the solution, since corporations are "profit hungry," "selfish," and "uncaring," with leaders who put the interests of shareholders ahead of workers. For some, big businesses are even associated with the rise of fascism.⁴³

Thus, they question how Washington can even consider policies to make U.S. corporations more competitive when these very corporations have moved jobs offshore. To the extent progressives soften their antipathy to companies, it's to favor small business—which are somehow not seen as caring about profits—and "progressive" industries such as clean energy and organic farms.

As a result, for them, there is no need to expand the R&D credit since many large firms utilize it. There's no need to take steps to protect companies from having their IP stolen overseas, since that only helps "Big (fill in the blank)." In fact, they see strong IP as the problem, not the solution. And there's no need to ensure America's regulatory system doesn't erect unnecessary barriers. In fact, they believe more regulation is needed to protect Americans from their companies, at least from big companies (small companies are free to do what they want).

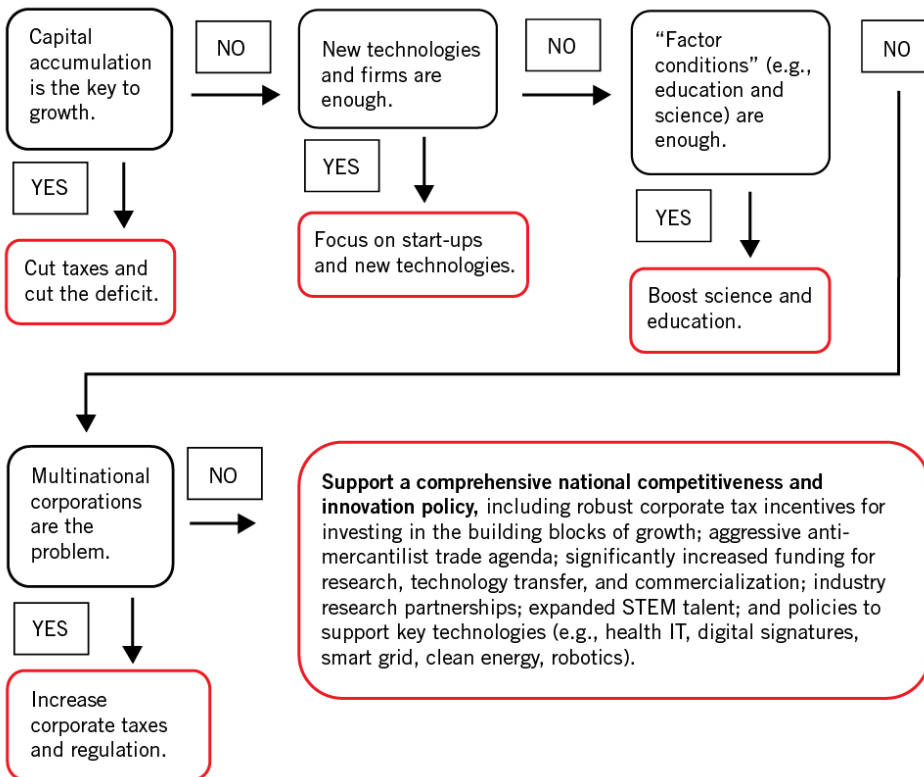
Unless America can find a way to have globally competitive enterprises—most of them big—there is simply no way to be competitive in the global economy.

Rather, policymakers should be exerting more control over corporations, they assert. Harold Meyerson, a liberal columnist for *The Washington Post* understood that the U.S. economy faces serious challenges when he wrote in 2011, “Our economic woes, then, are not simply cyclical or structural.” But then he went on to add, “They are also—chiefly—institutional, the consequence of U.S. corporate behavior that has plunged us into a downward cycle of underinvestment, underemployment, and under-consumption.”⁴⁴ His solution was not to do what other nations had done—enter the race for global innovation advantage on the side of U.S. business establishments to help them win the race—but to call for economic democracy. As he stated, “Our solutions must be similarly institutional, requiring, for starters, the seating of public and worker representatives on corporate boards. Short of that, there will be no real prospects for reversing America's downward mobility.”⁴⁵

Others advocate that the federal government can and must make up directly for the lack of industrial competitiveness. As liberal economist James Galbraith has said, “GDP goes up at least dollar for dollar when this form [social policy spending] does.”⁴⁶ For him, if businesses are moving jobs to China, just expand government spending. If good jobs are being eliminated, then mandate that firms pay higher wages. As Galbraith put it, “You want higher wages? Raise them.”⁴⁷

Of course, the problem is that unless America can find a way to have globally competitive enterprises—most of them big—there is simply no way to be competitive in the global economy. And many of these enterprises will be owned by large corporations. The idea that we can be competitive with strong companies producing cars, jet aircraft, computers, software, Internet applications, and pharmaceuticals—and that somehow small firms can carry the load—is completely unrealistic. Likewise, the idea that the federal government can compensate for the loss of national income from the decline in competitiveness of large corporations ignores the fact that this money has to come from somewhere. This is not to say there should not be better regulations on big companies—especially to help their workers—but singling them out and exempting small firms, as the U.S. regulatory system already does, turns our back on the half of private-sector workers in small firms.

Figure 2: The logic chain to a comprehensive national innovation and competitiveness policy



CONCLUSION

Getting to a new “Washington consensus” that supports the need for a robust national industrial strategy will require thinking more clearly and throwing overboard out-of-date, anachronistic ideas that, even if they once made sense, no longer do. Getting to this consensus to develop and implement a comprehensive national innovation and competitiveness policy will require successfully proceeding along a series of logical steps—with any misstep having the potential to derail efforts. However, if one accepts the validity of the claims at each of these steps, then the only logical conclusion is that maximizing U.S. economic welfare requires a national advanced-industry strategy.

Indeed, the United States can no longer be indifferent to the industrial and value-added mix of its economy. With the sole exception of the United States, virtually all nations have adopted national policies to “intervene” in the market in order to make it easier for corporations to invest in higher-value-added activities that create higher-wage jobs at home. These countries are not content to sit idly by to observe how the market will allocate production, for they know that the market could allocate to them low-wage T-shirt factories and call centers, instead of industrial-machinery factories and software companies. Nor are they content to spin populist yarns that big companies are evil and their economies can thrive on small businesses—a sure path to economic decline. They “intervene” in their economies to help their traded-sector enterprises, regardless of size, be more competitive. It’s long past time for the United States to do the same.

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