for the United States permanent lost per-capita real income."[87] Or as Greg Tassey, senior economist at the National Institute of Standards and Technology (NIST), explains, "Technological change can not only shift comparative advantage through trade but also lower real incomes in the economies that do not develop and use new technologies to a sufficient degree."[88] When an economy loses such a large number of "traded jobs," the impact on the overall economy will be nothing less than severe.[89] The message is clear: relative American prosperity is waning.

But the United States is not the first country to experience such stunningly rapid industrial decline; the British economy charted that path from the 1950s to the 1970s. As we discuss in chapter 3, dreadfully poor economic policymaking largely begat both collapses.

3

Learning from the Wrong Master

LESSONS FROM U.K. INDUSTRIAL DECLINE

After being the global economic leader for more than a century, the experience of relative economic decline is new for the United States, a bit like waking up one morning to find that your mansion has termites and your Cadillac is leaking oil. This is not to say that some U.S. regions, particularly in the Northeast and Midwest, haven't had termites and leaking oil for some time. Places like western Pennsylvania saw their economies go into relative decline in the 1950s and 1960s. But for most of America, until fairly recently, the economic foundations were termite-free and the economic engine roared like new. And even though America faced increased international economic competition in the 1980s and 1990s—particularly from Japan and Germany, who took a large bite out of U.S. leadership in sectors such as steel, automobiles, and machine tools—the economy came surging back in the 1990s, powered by the information technology (IT) revolution. It has only been since the late 1990s that the United States as a whole began to experience what places like western Pennsylvania have long endured, and to see tangible ways in which it is losing ground to other nations, particularly in its ability to field a globally competitive, high-wage export sector.

So with the termites now eating the foundation and the oil puddle forming on the garage floor, how should America respond? One answer is to pretend the termites are not there and to put a mat on the garage floor to soak up the oil. Indeed, the dominant view of U.S. elites has been to deny that there is a problem. If you repeat "we live in a new mansion and drive a new Cadillac" often enough (or in the case of the economy, "America is still the most innovative, competitive economy with the American worker able to outcompete anyone"), then it must be true. Moreover, too many elites, particularly economists, believe that nations don't really decline or even compete, especially the United States, which is more market-oriented than many nations and therefore, by definition, can't decline.

But nations do decline relative to others if they do the wrong things long enough and fail to do the right things. An instructive case in point is the United Kingdom, whose industrial decline from the 1950s to the early 1970s looks troublingly similar to America's present decline. As late as the 1880s, the United Kingdom led the world in industrial might. And while Britain did lose ground before World War II (WWII), as Aaron Freidberg documents in his book *The Weary Titan: Britain and the Experience of Relative Decline, 1895–1905*, even as late as the late 1940s, it was second only to the United States. But within thirty years, the United Kingdom lost much of its industrial base and economic leadership, just as the United States is now doing. Although Britain was "the world's workshop" throughout the 1800s and into the early 1900s, in the forty years after WWII, that workshop closed and moved to other nations. Between 1973 and 1992, U.K. manufacturing output increased just 1.3 percent, compared to 32 percent in Germany, 55 percent in the United States, and 69 percent in Japan.[1]

To be sure, the United Kingdom and the United States are different, and not all of their experiences are transferable. But when one studies the causes of U.K. industrial decline, what quickly emerges is an eerie feeling of déjà vu. In area after area, America is making the very same mistakes that Britain did. In fact, if one substituted a "S" for the "K" in "U.K.," many of the explanations given by experts for U.K. decline would seem as if they were written today about the United States. The United Kingdom, however, had no one to learn from in averting its decline, making it more difficult for British leaders to stop what was avoidable. The United Kingdom could have killed the termites and fixed the oil leak. Instead, it fed the termites and exacerbated the leak. The United States is luckier. We aren't the first nation to decline. We can remember the past if we choose to, learning from and avoiding the mistakes the United Kingdom made. But as Spanish philosopher George Santayana said, "Those who cannot remember the past are condemned to repeat it." The question is whether America will pretend that the past is not prologue and go merrily on its way, making the same mistakes its British cousins made before it, or learn from Britain's troubled industrial past. To answer that, it is useful to first examine the experience and causes of the U.K. decline.

At the end of the day, the United Kingdom's experience from the mid-1950s to the late 1970s suggests that industrial decline is perhaps not very complicated after all. The recipe for decline is actually pretty straightforward: ignore the industrial sector in favor of finance; keep currency values high relative to other currencies; pretend that you are not in global competition; oppose the introduction of new technological innovations; skimp on investments in the future; focus on macroeconomic stabilization at the expense of microeconomic policies to spur investment and innovation; fight over the slices of the pie rather than making a bigger pie; and so forth. The British did all this and more, and in hindsight the results were sadly predictable: a dramatic loss of industrial leadership over the course of just two decades. While the British have since suffered four decades of slower economic growth because of this, perhaps their failure can have a purpose: educating other nations about what not to do.

By economic decline, we do not mean an absolute decline in living standards. Indeed, the average per capita income in the United Kingdom is higher today than it was in the 1970s, just as U.S income today is higher than in 1990. Rather, we mean a decline in real manufacturing output as a share of gross domestic product (GDP), the development of chronic foreign trade deficits, and slower per capita economic growth than most peer nations over a sustained period of time.

By these measures, both the United Kingdom (in the postwar period) and more recently the United States can be said to be suffering from economic decline. Like America, Britain was once the world's dominant economy. Even after WWII when the United States had overtaken it, both in

absolute and per capita output, the United Kingdom led all other nations. But within a span of two decades, the wheels came off the U.K. economy as it lost industry after industry to foreign competition. As Sydney Pollard wrote in 1982, "How does Britain fare in such comparisons? The statistics confirm the national consciousness of a staggering relative decline, such as would have been considered utterly unbelievable only a little over thirty years ago." Pollard went on to note, "After having led the world for two hundred years, Britain is no longer counted among the economically most advanced nations of the world. A wide gap separates her from the rest of industrialized Europe. The difference as measured in national product per head between Britain and, say, Germany, is now as wide as the difference between Britain and the continent of Africa. One short generation has squandered the inheritance of centuries. . . . There is no record of any other economic power falling behind at such startling speed."[2] To be sure, the United States has not fallen that far and that fast, yet. But it certainly has fallen relatively far since the late 1990s.

As both the United Kingdom and the United States fell behind on manufacturing investment, both nations became increasingly dependent on imported goods, with resulting increases in their trade deficits. As Ajit Singh noted in 1977, "The U.K. therefore seems to be becoming increasingly unable to pay for its current import requirements by means of exports of goods and services and property income from abroad."[3] Likewise, Rex Pope observed, "Overall, manufacturing declined sharply in relative importance. The sector had provided 28 percent of GDP in 1972; this fell to 21 percent by 1983. . . . A consequence of this process, as domestic consumption of manufactures rose by nearly a third from 1979–89, sucking in imports, was that the traditional trade surplus in manufactured goods had become a £16.1 billion deficit (3.1 percent of GDP) by 1989."[4] Comparatively, U.S. performance has been, in fact, significantly worse. The United States has been running an overall trade deficit since 1976, and since 2000, exports generally have not even matched 75 percent of imports, as figure 3.1 shows.[5]

These losses in relative industrial leadership occurred quite suddenly. As Nick Crafts writes, "The main losses in the British share of manufactured trade came in the 1950s and 1960s."[6] In the United States, the crisis developed toward the end of the 1990s, as the country lost one-third of its manufacturing employment. In the case of the United Kingdom, it was the rise of continental European manufacturing that hurt it the most. As Crafts notes, "The European overtaking of the U.K. is revealed as a new phenomenon of the 1960s and 1970s."[7] In America's case, it was Southeast Asia in general, and China in particular.

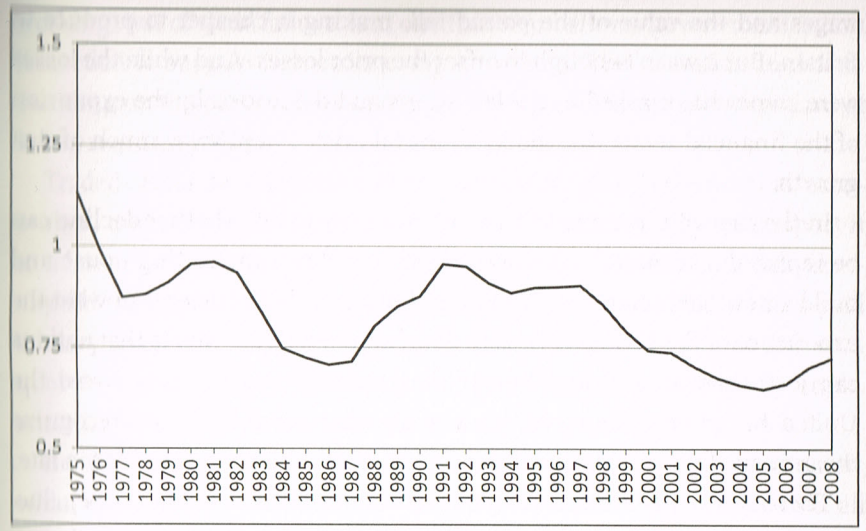

Figure 3.1 Ratio of U.S. Exports to Imports, 1975–2008
Source: Based on statistics and information from the Bureau of Economic Analysis.

The risk is that once a nation gets into this cycle of decline it is very hard to get out of it. As Singh explains, "Once the economy is in long-run disequilibrium, for whatever reason, continued participation in international economic relations on the same terms as before may produce a vicious circle of causation. As a consequence, a country in a weak competitive position may have balance-of-payments difficulties, which lead the country to have a lower level of demand, which leads to lower investment and hence lower growth of productivity and continuing balance-of-payment difficulties. There may be no automatic market mechanism to correct the disequilibrium."[8] As the United Kingdom has now experienced for thirty years, this has largely been true. The U.K. economy recently has gained from some foreign direct investment in manufacturing, largely because both relative

wages and the value of the pound fell, making it cheaper to produce in Britain. But it wasn't enough to offset the prior losses. And while the losses were somewhat masked in the late 1990s and the 2000s by the expansion of the financial sector, the global financial crisis swept away much of that growth.

In the case of the United States, it's too early to tell whether decline can be replaced by renewal: whether we can tear down the rotting house and build a new one, scrap the Cadillac and buy a Tesla Roadster. But what the experience of the United Kingdom demonstrates all too well is that nations can lose innovation leadership. If the United States hopes to avoid the United Kingdom's fate it will need to do what Britain did not: recognize the gravity of the situation and act decisively and boldly before it's too late.

There is actually no secret to global economic success (and decline). Success comes when nations combine the ingredients needed to build vibrant, healthy business establishments in globally traded sectors. Decline comes when they do not. Traded-sector success requires business leaders willing to take risks and invest in research and development (R&D), engineering, and new plants and equipment (including computers and software), especially when these investments may not immediately pay off. It requires a workforce that supports the introduction of those technologies and associated changes in work organization.

But private-sector action alone is not enough. Success also requires government policies that actively support enterprises investing in the future. At the macro level, this means trade and currency policies that enable businesses to be internationally competitive, and fiscal and monetary policies that encourage them to invest. At the micro level, it means an innovation policy focused on supporting industrially relevant R&D; efficient transfer of technology from universities, federal labs, and other intermediary research organizations to industry; and technical assistance for small- and midsized manufacturers. It also means support for key input factors, including a skilled workforce and the right infrastructures, including digital infrastructure (such as wireless and wireline broadband and the smart electric grid). Two key political economy factors make it more likely that a government will take these steps: The first is the presence of an economics profession that sees loss of industrial market share not as evidence of markets

working, but of their failure, and one that also believes government action is needed to support industrial competitiveness. The second is an understanding on the part of elites that maintaining a relatively high standard of living requires industrial competitiveness.

Traded-sector decline comes when businesses, labor, governments, economists, and political elites fail to support innovation policy, or support it to a lesser extent than a nation's competitors. The United Kingdom generally did the opposite of what was needed to thrive economically and it paid a heavy price. The United States has followed a similar path for at least a quarter century, and it has also paid a price. And if Britain is any guide, America will continue to decline unless it changes course.

Before discussing the causes of industrial decline, it's important to note what we mean by industrial "establishments." Many companies and all large ones are multiestablishment enterprises, an establishment being the factory, office, or other facility of a business enterprise. In other words, General Motors (GM) is an enterprise, but it has hundreds of establishments, such as car assembly factories, throughout the nation. Even in an uncompetitive economy, a nation's multinational enterprises may be highly competitive, but enterprises in globally traded industries locate many of their establishments, especially ones engaged in high-value-added production, in other nations. In contrast, an economy packed with highly productive and innovative establishments at home will be successful. We also use the word "industrial" specifically to mean an economy's traded sectors that are subject to international competition. This includes some of the extraction sectors (mining, lumber, farming, and so forth), most of manufacturing, and some services (such as software, entertainment content like movies, consulting, and engineering services). National industrial success does not require success in all sectors, but the larger the nation, the broader the success must be in order to avoid chronic trade deficits and relatively slower income growth.

Comparing U.K. and U.S. Factors of Industrial Decline

Because the United Kingdom's decline occurred more than forty years ago, there is an array of scholarly articles and books analyzing it. Reviewing

this literature, the commonalities between U.S. and U.K. industrial decline are remarkably striking. While it is not possible to construct a "scientific" comparison of factors of decline, at least twenty factors appear remarkably similar.

Factor 1: Uneven Management Quality

Much has been written about the failure of U.K. industries. Just say "British Leyland" (the ill-fated move to consolidate British automaking), and industrial decline springs to mind. But why did British companies fail to meet the challenge of international competition when companies in other nations did? Some blame the widespread failure of managers. Crafts cites an array of studies to make his argument that "the chief of these persistent weaknesses relative to other leading economies lay in poor quality of management."[9] While U.S. management appears to be better on the whole, certainly poor management has been at the heart of the decline of some key U.S. sectors, such as automobiles.[10]

Factor 2: Corporate Investment Cuts

Without constantly investing to refresh the drivers of innovation in establishments—R&D, new plant and equipment, and a skilled workforce—sustained industrial success is impossible. Yet, firms in both nations cut back on these building blocks in favor of short-term profits and overseas expansion. As Crafts notes, R&D played a role "in explaining weak British trade performance in manufacturing . . . the share of U.K. GDP spent on R&D remained at the same level while for the average of the other countries there was a rise of 0.43 percentage points."[11] In the United States, corporate R&D as a share of GDP increased by just 3 percent from 1999 to 2008, while it increased in China (187 percent), Korea (58 percent), and Japan (27 percent), as well as the European nations of Hungary (90 percent), Spain (66 percent), Finland (28 percent), and Germany (11 percent). Crafts attributes the United Kingdom's decline in part to "weak research and development by the business sector and inadequate training of workers."[12] Likewise, American firms have cut back on both. From 1999 to 2007, investments by U.S. business in workforce training declined by 45 percent (as a share of GDP), while corporations struggled to maintain R&D investment (which declined by 0.03 percent as a share of GDP) after increasing it for decades.[13]

Manufacturing firms in both nations also curtailed investment in plant and equipment. As Singh writes, "Whatever index is used, the United Kingdom's investment record in recent years has been disappointing. . . . Whereas between 1954–56 and 1963–65 manufacturing investment at constant prices grew by 39 percent, between 1963–65 and 1972–74 it grew only by 19 percent. Further, over the period 1964–72, manufacturing investment as a proportion of GDP was on average lower in the United Kingdom than in most competitor countries."[14] Change the years and substitute "U.S." for "U.K." and the story is even worse: "Whereas between 1989 and 1998 the stock of U.S. manufacturing plant and equipment at constant prices grew by 36 percent, between 1999 and 2009 it declined by 1 percent, while fixed assets overall (including housing) increased by 38 percent."[15] Further, during the period 2000 to 2008, manufacturing investment as a proportion of GDP was, on average, lower in the United States than in most competitor countries.

Factor 3: A Focus on Overseas, Rather Than Domestic, Investment

While foreign investment can help enterprises, if it comes at the expense of domestic investment, it can hurt domestic establishments. This happened in both nations. As Kitson and Michie note, there was "continued overseas orientation of . . . [U.K.] multinational corporations."[16] Crafts writes that "relative to large firms elsewhere, large U.K. manufacturing firms may be investing more abroad than at home."[17] We see the same pattern in the United States, where, when examined as a share of gross national product (GNP), the overseas capital expenditures of U.S.-headquartered, manufacturing multinational corporations increased by 9 percent between 2000 and 2009, while their domestic expenditure decreased by nearly 50 percent.[18] In essence, factors 2 and 3 indicate that

U.S. enterprises have been investing less, especially compared to other nations.

Factor 4: Focus on Short-Term Returns, Dividend Payments, and Rate of Return Ratios

Companies in both nations focused more on financial engineering and short-term calculus than on investing for the long term. As Kitson and Michie write, in the United Kingdom, there was a focus on "growth in companies by acquisition and financial engineering rather than through organic development and building on products and markets . . . with an emphasis on comparisons of near-term financial results on judging our companies."[19] The same was true in the United States. In a 2004 survey of more than four hundred U.S. executives, 80 percent indicated that they would decrease discretionary spending on areas such as R&D, advertising, maintenance, and hiring in order to meet short-term earnings targets, and more than 50 percent said they would delay new projects, even if it meant sacrifices in value creation.[20]

These pressures from financial markets for immediate returns meant, as Kitson and Michie write with regard to the United Kingdom, "that increased profits went disproportionately into dividend payments rather than investment."[21] This has happened with U.S. manufacturers, with the ratio of dividends paid to the amount they invested in capital equipment increasing from the low 20 percent range in the late 1970s and early 1980s, to around 40 percent to 50 percent in the early 1990s, to above 60 percent in the 2000s.[22] In other words, rather than reinvesting in capital equipment in U.S. establishments, market pressures have forced companies to keep share prices high by paying greater dividends. Significantly, dividend payments increased substantially after Congress slashed the tax rate individuals paid on corporate dividends in 2003, exactly as predicted by financial experts like Aswath Damodaran, professor of business at the Stern School of Business at New York University (NYU). Damodaran predicted that tax cuts on dividend income would lead to "a dramatic surge both in the number of companies that pay dividends and in how much they pay and a cut-

back on larger investments that take longer to receive a payback." He went on to portend: "If the desire to pay dividends causes firms to shift funds from good investments to dividends, these firms and society will pay a price in the form of less real investment and lower growth."[23] And this is exactly what happened.

In this sense, the neoclassical economics view that high rates of hostile takeovers and short-term financial pressures lead to superior performance is wrong. As Crafts writes, "The British arrangements might be thought more likely to correct managerial failure, but . . . in practice, the effectiveness of German banks as monitors of firm performance and the ineffectiveness of the British takeover mechanism in singling out poor performance and leading to efficiency gains post-merger may make the German arrangements unambiguously superior."[24]

In the United States, too, this pressure to achieve short-term profits all too often has meant sacrificing long-term investment. As the Business Roundtable, the leading trade association for large American businesses, reported, "The obsession with short-term results by investors, asset management firms, and corporate managers collectively leads to the unintended consequences of destroying long-term value, decreasing market efficiency, reducing investment returns, and impeding efforts to strengthen corporate governance."[25]

Such financial pressures have forced many U.S. firms not only to cut back on the growth of their research budgets but also to reallocate their research portfolios more toward product development efforts and away from longer-term and more speculative basic and applied research. As figure 3.2 illustrates, from 1991 to 2008, basic research as a share of corporate R&D conducted in the United States fell by 3.6 percent, while applied research fell by roughly the same amount, 3.5 percent. In contrast, development's share increased by 7.1 percent.[26]

Harvard Business School's Clayton Christensen raises a related concern: that the aggressive pursuit of short-term profitability—which is taught in American business schools mostly as profitability understood in percentage rates of return (because evaluating rates of return in percentages allows easy comparisons with other investment alternatives)—is actually killing

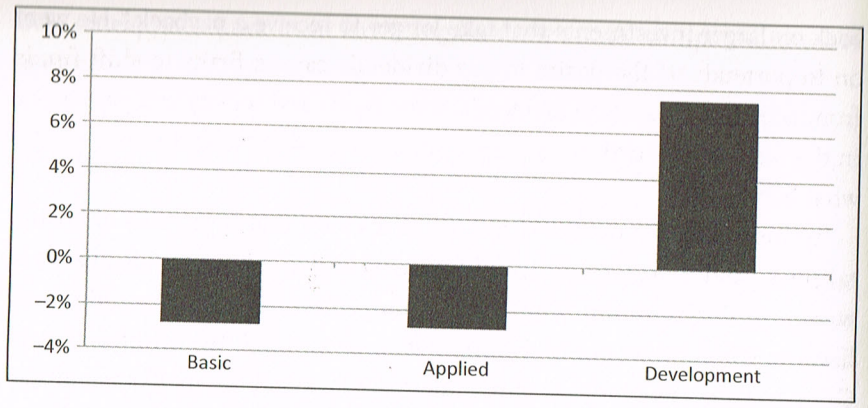

Figure 3.2 Change in Allocation of Corporate R&D, 1991–2008
Source: Based on statistics from the National Science Board.

American innovation. As Christensen notes, many American firms focus on a measure called RONA, Return on Net Assets, as a key measure of performance, but this often leads them to focus on reducing the denominator, assets, as many U.S. companies did in outsourcing much of their manufacturing plant to Asia. Another example, as Steve Denning notes, is firms' "pernicious methodology for calculating the internal rate of return (IRR) on an investment. It causes you to focus on smaller and smaller wins. Because if you ever use your money for something that doesn't pay off for years, the IRR is so crummy that people who focus on IRR focus their capital on shorter and shorter-term wins."[27] Christensen excoriates mainstream thinking about profitability in U.S. business schools and on Wall Street, "We measure profitability by these ratios. Why do we do it? The finance people have preached this almost like a gospel to the rest of us that if you describe profitability by a ratio you can compare profitability in different industries. This 'neutralizes' the measures so that you can apply them across sectors to every firm."[28] Christensen notes that Asian enterprises explicitly reject this type of thinking and are much more focused on accumulating assets that can build future wealth, and he argues that the outsourcing that has occurred in many U.S. manufacturing industries—from autos and steel to semiconductors and pharmaceuticals—has been driven in part by this overzealous and misguided focus on profitability measures like RONA.

Factor 5: Businesses That Reject Government's Role in Industrial Development

National industrial success depends on the acumen of business, but government can help or hurt business efforts. Finding the right balance is at the heart of any successful political economy, but if business leaders reject government assistance as an inappropriate intrusion into the marketplace, government is likely to stay on the sidelines. After all, why go where you are not wanted? In the United Kingdom, industrial leaders "were deeply suspicious of anything which smacked of state socialism" and that included efforts to develop a private sector supporting national industrial strategy.[29] Many U.S. businesses and the organizations representing them have exactly the same view. With respect to the twenty million jobs America needs, the U.S. Chamber of Commerce asserts that "only American free enterprise is capable of meeting this challenge."[30] When the head of the National Federation of Independent Businesses announced opposition to efforts by the Obama administration to spur job creation, he stated that government help wasn't wanted because jobs will be created by "the hard working small business men and women when these entrepreneurs have taken enough calculated risks needed to expand their businesses."[31] Funny how they didn't take the calculated risks on their own to keep the economy out of a deep recession with no net job creation in more than a decade. When your nation's leading business organizations are telling government, "stay out, we don't want or need your help," you can bet that government will do just that. But the result is tantamount to removing a leg from a three-legged stool.

Factor 6: Unions' Push for Excessive Compensation

While business decisions ultimately determine a nation's industrial advance or decline, workers play an important role. Workers certainly have rights to decent wages, benefits, and working conditions, but in the United Kingdom and the United States unions often failed to see their obligations to their members' employers or became stakeholders in their long-term health only too late. While they can do little to turn shortsighted, timid industrial

managers into farsighted, risk-taking leaders, unions can thwart the efforts of the latter. And in both nations, unionized workers did that all too often, seeking wage and benefit packages that firms ultimately could not support and remain competitive. As Pollard writes, "In many branches of [U.K.] industry the employees reached the view that since there was no natural growth, they should take as much as possible out of their firm."[32] Likewise, in some U.S. unionized industries like autos and steel, union wage and benefit demands exceeded the ability of the companies to pay them and still be competitive. Moreover, management gave in to the demands, ignoring the competition on the horizon. And one result, among others, was the bankruptcy of GM and Chrysler. Or, as legendary U.S. labor leader Samuel Gompers was once asked: What, exactly, was organized labor after? What was the endgame? How much would be enough? Gompers answered "more," explaining that "when it becomes more, we shall still want more. And we shall never cease to demand more until we have received the results of our labor."[33]

Factor 7: Union Opposition to New Technology

Unions actively negotiated with firms in both nations to slow down the introduction of new technology that would have helped firms in their battle for international innovation advantage. As Crafts writes, "Bargaining practices in the United Kingdom tended in the 1970s to retard and dilute the gains from the introduction of new technology."[34] In the United States, many industrial unions have seen new technology as a threat. In the early part of the 2000s, for example, the United Auto Workers (UAW) special bargaining convention set an agenda that called for income protections, including from layoffs associated with new technology or productivity improvements. A few short years later, many got laid off—not from productivity improvements, but from a lack of them. To be fair, in contrast to most industrialized countries, the United States has a weaker safety net and one that is still significantly tied to jobs, making union demands for job security more likely than what unions in nations like Sweden might bargain for.

Factor 8: Adversarial Labor Relations

Unions (and managers) in both nations often saw industrial relations as zero-sum. Unions didn't try to increase the size of the pie and then ensure that workers got their fair share; instead, they focused on getting a bigger share of the pie, regardless of whether it was growing. As Pollard writes, "Even if the future should show that new technology means better jobs rather than unemployment, this will still be a long way from the widespread conviction which is familiar in other countries, but very rare here, that improvements in pay, except of the most limited and temporary kind, can come only from greater productivity. We are even further away from a positive interest by unions themselves in the productivity of their members."[35] Another U.K. observer, Peter Jenkins, contends, "[But] the approach so successful wherever it has been tried will not be allowed to be tried here. The trade unions will see to that. . . . Their commitment to competitive collective bargaining, their vested interests in declining industries and over-manned plant, and their inability to reform themselves or effectively lead their members are seemingly insuperable barriers to the adoption of a wealth-creating Social Democratic approach."[36] In the United States, industrial unions all too often played the same role, believing it their job to oppose managerial efforts to boost productivity and to innovate.

Factor 9: Union Focus on Short-Term Gains

Industrial unions in both nations acted in ways that jeopardized their long-term interests for the same reasons corporate managers did: all their incentives were to maximize short-term gain at the expense of long-term stability. Even if unions realized they were harming the firm, all too often they couldn't stop themselves. As Pollard concludes, "What occurred in industry after industry in the U.K. was a Greek tragedy. . . . Somehow workers in some sectors have found themselves destroying their firm, fully aware of what they were doing, yet unable to stop. They found themselves answering strike calls . . . in the full awareness that . . . the result could only be ruin for all concerned."[37] The description bears a striking resemblance to what occurred in many unionized U.S. industries. We asked a former United Auto

Workers union leader: If the UAW knew then what it knows now about the decline of the Big Three (Ford, General Motors, and Chrysler), would it have done things differently? His response was "no." While he acknowledged that UAW actions hurt the Big Three, he believed that union leadership could have acted no differently. If it did, he said, workers would have voted UAW leadership out and installed leaders who would "stand up for the interests of workers now."

Factor 10: Governments Saw Their Main Role as Preserving Macroeconomic Stability

The list of errors made by the U.K. and U.S. governments is extensive, but perhaps the most fundamental was that they let economic policy be run by their respective Treasury Departments. While other ministries/departments have an interest in the economy, in both nations, they were shunted to the sidelines as secondary players. This would be okay if it was not for the fact that Treasury officials ignored industrial competitiveness. In reviewing why the U.K. government not only failed to act time after time to address industrial decline, but actually took actions that made things worse, Pollard writes:

> We are looking for a body of ideas and of principles strong and pervasive enough to make governments continue with their policies even though they have led over a period of three decades . . . to the most devastating economic failure recorded in modern history and do not even make sense in their own terms. . . . Moreover, we are looking for principles held by British governments and policymakers but not by others—except those, like the United States in recent years, that have shown equally dismal economic results. . . . There is one and only one principle which will fit the bill: it is the principle of concentrating first and foremost on symbolic figures and quantities, like prices, exchange rates, and balances of payments, to the neglect of real quantities, like goods and services produced and traded. In particular, the subordination of one to the other is such that whenever there is a clash of interests, the real must be sacrificed to the symbolic.[38]

It is no different in the United States, where policymakers at the Treasury (but also at the Office of Management and Budget and the President's Council of Economic Advisors) spend much of their time focused on issues related to interest rates, inflation, savings rates, tax simplification, and other monetary factors. For them, the actual industrial composition of an economy is irrelevant, for in the words of Michael Boskin, head of former president George H. W. Bush's Council of Economic Advisors: "Potato chips, computer chips, what's the difference?" For policymakers at these agencies, any kind of manufacturing strategy is seen as inappropriate "industrial policy" that distorts the natural allocation of resources in the economy.

Factor 11: Policymakers Abdicated Any Role in Reversing Industrial Decline

Even in the rare cases where businesses in both nations asked government for help, government's response was more often than not, "We're not going to give it to you, because helping you would be bad for the economy. After all, you are just another rent seeker coming for your government handout." As Pollard explains, U.K. officials believed that "government has no role or function in the productive sphere of the economy as such. Its task is to set the scene, to provide the best possible conditions by demand management, by a favourable fiscal and financial system and by general legislation, and let business . . . flourish within them." He goes on to note, "the whole of post-war policy has been built on the assumption that whatever else can be manipulated or changed, actual production and investment cannot be and must be left to industry, and that the most the government can do is to set the scene which therefore receives top priority—at the expense of damaging the production and the investment."[39]

This is, of course, exactly what most U.S. economic policymakers believe, whether Democrat or Republican. It has become almost a requirement that any government report on economic policy start with the disclaimer that the job of government is merely to set the stage and to create the climate in which companies can create wealth and jobs. The next statement is normally something right from the Chamber of Commerce Web site, such as "the government does not create jobs."[40] When the prevailing view is that civilized governments do not help ensure industrial competitiveness,

governments do not. This high-minded stance reminds one of then secretary of state Henry Stimson's old-school assertion (when shutting down the State Department's Intelligence Office in the 1920s) that "gentlemen do not open other gentlemen's mail." Fortunately, Stimson changed his view when serving as secretary of war during WWII.

Factor 12: Policies That Deter Investment

Investment is the most important factor determining industrial success or decline. And government plays a key role in investment, both through the investments it makes directly (for example, funding scientific research) and through policies it implements (or does not) to encourage private-sector investment. In the United Kingdom, a particularly damaging government role was its on-again, off-again fiscal policy. Because the government was so concerned with maintaining the value of its currency and avoiding a balance-of-payments crisis, it put the brakes on growth whenever excess demand threatened to run up the trade deficit, making it difficult for business to invest. As Pollard writes, "In our search for a cause of the British failure to invest we have come upon one single overwhelmingly important answer: investment in Britain was low because the whole panoply of government power, as exercised above all by the Treasury, was designed to keep it so." As one government official put it, "It was a good thing that businesses were investing less . . . as this helped exports and the balance of payments."[41] Of course, by investing less, industry became even less competitive and the balance-of-payments problem became even worse.

There is no direct analogue in the United States, where economic policymakers have been blasé at best about massive trade deficits. However, since the late 1970s, federal policy—particularly Federal Reserve Bank policy—has focused more on keeping inflation in check than on keeping unemployment low, with the result being reduced demand and industrial investment. Case in point, the Federal Reserve under the leadership of Paul Volker in the 1970s pursued aggressive anti-inflation policies to limit investment and, in so doing, spurred a deep recession, all in an effort to address what was likely a temporary blip of inflation from the 1979 Organization of Petroleum Exporting Countries (OPEC) oil embargo.

Policymakers in both nations also shared the same view toward public investment and tax incentives for investment. U.K. policymakers were quick to cut investment tax credits for industry, especially in times of tight budgets. In the United States, because of the views of neoclassical economists, particularly at the Treasury, policymakers eliminated tax incentives for investment in plants and equipment in the 1986 U.S. Tax Reform Act. With the exception of a few temporary incentives put in place during recessions, the tax code has not favored capital investment since (with the exception of housing). In addition, despite having the twenty-sixth weakest R&D tax credit in the world as of 2011, almost all attempts to expand the R&D credit have been sacrificed on the altar of budget balancing. More recently, there was resistance from conservative and liberal neoclassical economists alike to President Obama's proposal to let companies (big and small) expense the full cost of their equipment purchases made in late 2010 and 2011.[42] Yet, allowing accelerated depreciation of capital equipment purchases is exactly the type of policy the United States needs to counter the slow growth of capital equipment investment by companies in the United States, particularly manufacturers; the noncompetitiveness of the U.S. corporate tax code; and the dramatic decline in U.S. manufacturing output and jobs.

Factor 13: Governments Don't Distinguish between Spending and Investment

For the U.K. Exchequer and U.S. Office of Management and Budget (OMB), spending and investment are the same: they both cost the government money and both are on the chopping block when it comes time to wield the budget ax. At times, investments were actually singled out for special cuts. As Pollard states, "To cut investment was the easy touch."[43] He goes on to note that "in times of stress they were treated as equally worthy of cuts—indeed, capital expenditure was generally treated as more easily dispensable, since it offered fewer toes to be trodden on."[44] One U.K. prime minister agreed: "So far as possible, the necessary cuts will be made at the expense of longer-term projects, because the constituency for spending was much stronger than the constituency for investment, which by definition costs money now to produce benefits in the future."[45]

The same can be said for the OMB, which is as likely to cut budget requests from the National Institute of Standards and Technology (NIST) for R&D funding as requests for wasteful farm subsidies from the Department of Agriculture. In the face of growing budget deficits, U.S. policymakers have largely refused to cut spending (either direct spending on entitlements or indirect spending in the form of tax cuts to individuals), but have been more than willing to cut investment (for example, in science, technology, transportation, workforce training, and education).

In both nations, budget agencies saw their role as limiting spending rather than ensuring adequate resources for investments to maintain their respective nation's industrial leadership. As Pollard writes, "It is to be found in the traditional job of the Treasury, which is to keep down the expenditure of the other government departments. Expenditure is therefore traditionally seen as the enemy, the evil to be kept down; the actual efficiency of the expenditure in terms of the social or economic good it might do, or the comparative efficiency of two competing claims, are completely outside the Treasury's traditional range."[46] The same statement applies equally well to the United States' OMB, where all agency budgets are viewed with suspicion.

Factor 14: A Focus on Military Spending

Budget agencies did, however, stand up for one kind of spending: military spending. In explaining why the United Kingdom cut key public investments, particularly support for civilian R&D, Pope writes: "One important reason for this was the substantial diversion of resources into an international military role that was beyond the country's means."[47] Pollard notes that "while we built tanks and planes, they [Germany and Japan] built the machinery with which to achieve their later successes."[48]

The same is true for the United States, where military budgets have been sacrosanct with support for commercial R&D taking a backseat to military R&D. For example, 51.4 percent of the U.S. federal R&D budget is devoted to defense-oriented R&D, almost triple the U.K. share of expenditure (18.3 percent). In contrast, non-U.S. Organization for Economic Cooperation and Development (OECD) countries, on average, allocate 3.9 percent of their federal R&D budgets to defense-oriented activities. And whereas just 5 percent of the U.S. federal R&D budget is dedicated explicitly toward economic growth, the OECD average is three times greater, and much more in countries such as Finland and Korea, which allocate 40 percent and 44 percent, respectively, of their federal R&D budgets toward broader economic growth.[49] The responsibilities of superpower status carry a high price, but the policies of the United Kingdom and the United States to favor military over civilian spending, instead of supporting both, could have an even higher price.

Factor 15: Policymakers Support a Strong Currency

When industries lose international market share and the nation starts running a trade deficit, currency markets should lower the value of the nation's currency so that companies can regain price competitiveness. But because of their financial as opposed to industrial orientation, policymakers in both countries ignored this simple lesson and instead defended their currency. In the United Kingdom, policymakers were obsessed with preserving the value of the pound sterling. As Kitson and Michie write, "macroeconomic policy for the past 30 years has resulted repeatedly in an overvalued exchange rate."[50] As Pollard explains, the reason was clear: "The sterling was still a world currency used by many of the oil producers, among others, and in order not to let them down or disappoint those who used the City of London as their banking centre, devaluation was ruled out repeatedly and much more harmful measures to the economy preferred instead."[51]

A half century later, the dollar is the reserve currency and economic policymakers concerned more with helping Wall Street than "Industrial Street" seek to keep its value high. Otherwise, in the face of massive trade deficits and soaring unemployment, how can President Obama's Treasury secretary, Timothy Geithner, proclaim that "we will never weaken our currency"?[52] Perhaps he can say this because he does not see a "contradiction between the U.S.'s policy of bolstering its exports and its strong-dollar policy."[53] But Geithner is not an anomaly. Since the mid-1970s, a strong dollar has been the stated policy of every administration, Republican or Democrat. In mid-2008, as the economy could begin to hear the roar of the financial crisis

waterfall in the distance, President Bush made it clear: "We're strong dollar people in this administration, and have always been for a strong dollar."[54] In the rare instance where a Washington official did not support the Washington strong dollar consensus, the pressure was on. As former Bush administration Treasury secretary Paul O'Neill stated, "When I was Secretary of the Treasury I was not supposed to say anything but 'strong dollar, strong dollar.' I argued then and would argue now that the idea of a strong dollar policy is a vacuous notion."[55] For these and other heretical views, O'Neill was replaced by someone who knew the right tune. Interestingly, unlike most recent Treasury secretaries who either came from Wall Street (for example, Nicholas Brady, Robert Rubin, Henry Paulson, and Tim Geithner) or were financial economists (Larry Summers), O'Neill came from industry, having served as CEO of Alcoa, a metals firm. As such, he knew firsthand the negative effect of an overly strong dollar on industrial competitiveness. To be sure, a stronger dollar means consumers pay less for imports, but that is a bit akin to saying that consumers are better off when they don't pay their monthly credit card bills in full. They are better off in the short term, but at some point, the day of reckoning arrives when the full bill must be paid.

Factor 16: Neoclassical Economists Call the Shots

While economics is far from a science, and is characterized by competing doctrines or worldviews, the dominant one in both nations is "neoclassical economics." Neoclassical economists focus principally on price-mediated transactions in marketplaces, which they believe produce the most efficient allocation of goods and services.[56] Since, by definition, markets are efficient, the natural role of government is limited.

No other nations have ceded economic policymaking to neoclassical economists to the degree that the United Kingdom and the United States have. As Pollard observes, "It may well be that the very quality of post-war economics, the greater sophistication of its theoretical constructions, its much refined statistical and econometric methods, have put it out of touch with real economic situations. Economic theory, as it has developed in the Anglo-Saxon world, turns out to have been a handicap rather than an aid

to good policy." He goes on to argue that "neoclassical economic theory, the kind taught in recent decades, may therefore be an excellent training of the mind, but it is among the worst possible preparations for giving advice on practical economic policy decisions. It was precisely that training in which Britain excelled."[57] Unfortunately, the dominance of neoclassical economics is, if anything, even stronger in the United States, where all major (and almost all of the minor) university economic departments teach it, and virtually all economists in important positions in the federal government are trained in and subscribe to it.[58]

The problem with neoclassical economics is that not only do its devotees lecture policymakers that there is little they can do to spur industrial development, but they also warn that any efforts to examine individual sectors with an eye to helping only makes things worse by preventing the market from efficiently allocating resources. As Pollard notes with regard to the United Kingdom, "It is highly significant that nowadays economists specify carefully that they are considering the 'real economy' on the rare occasions when they do so, instead of the world of symbols in which they usually move." Asking them to understand actual industries and design policies to spur industrial competitiveness would be akin to asking a theoretical physicist to design a bridge. The result is that U.K. and U.S. neoclassical economists look with disdain on "real world" economics. As Pollard comments in reference to the attitude of British economists toward French policies in the 1960s to steer investment to key sectors such as iron, steel, and transport, "such a plan would have been much beneath the dignity of British economists, trained to think in macrofigures: they would have left such tasks to hacks and to East Europeans."[59]

In the United States, the neoclassical straitjacket is even more constricting. Before one can advocate for even the most modest government action to spur innovation, one must prove "market failure." If someone has the temerity to assert that U.S. manufacturing has declined, the response is "the market produced this result, so it is beneficial, and by the way, manufacturing is no more important than any other industry." If that person then proposes a solution—like a national manufacturing renewal strategy—the neoclassicists rise as one with a cry of "show us the market failure!" The de facto assumption is that the market is working, and it is the responsibility of the

supplicant to prevail before the tribunal as to why individuals and organizations don't automatically act in their own interest; why that action doesn't produce a Pollyannaish public interest; and why government action doesn't make things worse.

But the neoclassical guild employs completely circular logic. Unless there is evidence of monopoly or government barriers, market outcomes are, by definition, the right outcomes. Thus, virtually any outcome is, by definition, the right outcome. The fact that when measured properly U.S. manufacturing output declined by over 10 percent in the last decade means not that there is a crisis in need of action, but rather that market forces are working. Like Voltaire's Dr. Pangloss, who proclaimed, "Tis demonstrated . . . the things cannot be otherwise; for, since everything is made for an end, everything is necessarily for the best end," the British and American Panglossian economists agree, virtually everything that happens in the market is for the best.

Needless to say, this is a formidable obstacle for the relatively small collection of business leaders, advocates, and scholars who call for a national innovation and competitiveness policy. On top of that, challenging the neoclassical canon is not without its risks. As Pollard argues, "It is true that anyone offering a solution out of line with the thoughts of mainstream economics runs the risk of being dubbed a crank."[60] It's no different in the United States, where the apostates risk a taunt from the neoclassicists: "It's clear that you just don't understand economics. Do you actually have a degree?"—by which they mean, "Do you have a degree in *neoclassical* economics?"

Factor 17: The Political System Ignored the Most Important Economic Issues

Businesses, unions, policymakers, and economists were all complicit in the industrial decline of the United Kingdom and the United States. But these issues all play out in a political system. And in both countries the political system largely ignored the problem, choosing instead to debate economic issues that were largely irrelevant to the challenge at hand. In the United Kingdom, "the issues on which party debates did take place, such as nationalization, tax incentives, the social services, or the Common Market, were all issues with only marginal connections or none at all with the issues of growth and decline."[61] In the United States, the issues that have been at the heart of U.S. economic policy debates—such as the appropriate marginal tax rates for individuals, whether to sign a few more free trade agreements, whether to cut the budget deficit, or whether to simplify (as opposed to cut) corporate taxes—are also issues with only marginal connection to the issue of industrial renewal. Broader discussions about forward-looking innovation policy; the imperative to do more than tinker with the education and training system; and a frank call for patience, sacrifice, and hard work by workers, investors, and taxpayers have been absent from the political debate for years.

Factor 18: A Political System Focused on Redistribution

In both countries, the energies of the political system have been tied up in issues of distribution rather than growth. Referring to the inability of U.K. policymakers to grasp the importance of an overall growth strategy, Pollard observes: "This blindness contributed to, as it was certainly made worse by, the British political tradition of fighting over the share out of the cake rather than considering ways of increasing its size. While such emphasis on distribution is not unknown elsewhere, the consciousness that all might gain by enlarging the cake is far more firmly rooted abroad."[62] In the United States, likewise, as we discuss in chapter 9, both parties spend much of their energies fighting for a share of the pie for their respective constituencies. When tough choices have to be made between promoting innovation and supporting redistribution, the choice is usually the latter. For example, rather than fund the America COMPETES Act in 2007, which authorized increased funding for science and science education, Congress increased funding for programs like farm subsidies, income security, and health care. American voters and interest groups are determined to ensure their particular ox doesn't get gored—even if the government supplied the ox.

Factor 19: A Belief That a Healthy Manufacturing Sector Is Not Required for Economic Success

While manufacturing is not the only sector that contributes to a nation's international competitiveness, it is impossible for large economies like the United Kingdom or United States to be competitive without a viable manufacturing sector. Yet, in both nations, many elites believed that manufacturing was unimportant (a theory we debunk in chapter 4). As Kitson and Michie write, the view that the "economy can flourish internationally in the future, in the absence of a strong manufacturing sector" was widespread in the United Kingdom.[63] In the United States, statements like Kevin Hassett's, a scholar at the conservative American Enterprise Institute, that "manufacturing has been on a more-or-less-steady decline as a share of national output for decades, part of the natural evolution of the U.S. economy," or Lawrence Summers's comment that "America's role is to feed a global economy that's increasingly based on knowledge and services rather than on making stuff" have become part of the Washington economic consensus.[64] Inside the closed world of the Washington economic consensus there is no way to justify a manufacturing strategy: If manufacturing has declined, the market has deemed it is no longer important. If manufacturing hasn't declined, then there is no need for a strategy. And besides, manufacturing is no different than massage therapy; they both employ people and produce economic output, the Washington economic consensus claims.

Factor 20: Reluctance by Elites to Admit Relative Decline

Finally, in both nations, a distorted view of past advantage made it difficult for elites to admit decline. As Eatwell observes, a problem was that the United Kingdom was "unable, or unwilling, to adapt to a competitive world in which its pre-eminence could no longer be taken for granted."[65] Likewise, the consensus view among most U.S. elites is that America has been number one, is number one, and will continue to be number one. In short, America is exceptional. From Tocqueville to the present day, there is a long strand of thinking that holds that America is qualitatively different from other nations and, for many, this means qualitatively better. To acknowledge that the U.S. economy is no longer the innovation leader directly challenges this ideology. Presenting evidence from the *Atlantic Century* report that the U.S. rank in global innovation-based competitiveness has fallen has elicited responses ranging from "we are still the biggest innovator" to "we may be losing this round, but we will out-innovate them in the next round" to "other nations may be the assemblers, but we will be the orchestrators." Indeed, President Obama's patriotism and fitness to govern came under attack when he offered a thoughtful reflection that past greatness is not a guarantee of tomorrow's success.

Some argue that the reason for denial is like the proverbial frog in the frying pan—the heat of economic decline has been increasing too gradually to notice. These advocates invoke the need for a "Sputnik moment" that will wake America up. When the Russians launched a satellite that orbited our skies, it was clear that the United States had been trumped. But another Sputnik moment for competitiveness is unlikely, and if we can only act with one, we won't act. (We don't even notice them anymore when they do occur, such as China's announcement in 2011 that it had built the world's fastest supercomputer, taking that crown from the United States.)[66] Moreover, when President Obama invoked the Sputnik challenge in his January 2011 State of the Union address to argue for increased investments in science and education, the response was muted at best, dismissive at worst.

As Pollard notes, "There are some who hope for the power of the trauma: the trouble with Britain, they argue, is that at no point have her misfortunes been severe enough to force upon her a fundamental reappraisal. If only we sink far enough, and disaster strikes hard enough, wide-spread changes in outlook will follow. . . . At the same time, there must be some doubt whether this sort of brinkmanship will really work as a method of concentrating the mind."[67] The same is true for the United States. The investment in denial remains strong. If the 2008–2010 economic near-death experience was the Sputnik moment that we needed, our political system seems to have missed it. For accepting that there is a crisis means accepting that what America has been doing and believing in is no longer working and that new ways of doing and believing are needed. It is easier to just deny the existence of the problem. As T. S. Eliot wrote, "Humankind cannot bear very much reality." And if the reality in the United Kingdom was

bad, it's potentially as bad in the United States, especially in the absence of action.

One would assume that after the U.K. industrial sector sank as far as it did, elites would have woken up and sounded the clarion call for action. But even today it is not widely accepted that the United Kingdom suffered a serious decline. Even some who have studied the issue remain in denial. After all, they assert, Britain is still richer today than some other nations. Rex Pope, author of *The British Economy since 1914: A Study in Decline?* reflects this view when he states, "However we measure U.K. economic condition and well-being in relation to the G7 nations or the other members of the European Commission, we should remember that these are clubs containing the richest of the world's states. The gap between the U.K. and those within these groups with stronger economies is much less than that between the U.K. and the great majority of the world's nations."[68] Should the United States fail to turn around its economic ship of state, such sentiments will likely be standard fare in the 2020s. You can almost hear the neoclassical economist–inspired *New York Times* editorial board stating: "Even though we no longer have much manufacturing and even though our per capita income growth has slowed to a crawl, we are still richer than the Zimbabweans."

These views—excuses, really—are all too prevalent today in America and are a central barrier to action. For, just as Alcoholics Anonymous famously states that the first step to overcoming alcoholism is to admit being an alcoholic, the first step to reversing America's slide in the race for global innovation advantage is to admit that our nation is slipping.

4

Why Do So Many Refuse to See U.S. Structural Economic Decline?

Given how clear it is that the United States is losing the race for global innovation advantage, why isn't this regularly the subject of op-eds, conferences, and congressional hearings? The simple answer is that notwithstanding the occasional report or op-ed,[1] most U.S. pundits, policymakers, and economists have steadfastly refused to heed the abundant warning signs of long-term structural U.S. economic and competitive decline. For example, in a 2008 report prepared for the Bush administration, the RAND Corporation reviewed key indicators to evaluate the current state of U.S. science and technology (S&T) competitiveness.[2] The report contended that the "clarion call" of concern about threats to the state of U.S. S&T competitiveness was alarmist and overblown, despite the fact that many of the indicators they presented actually did suggest significant decline in the U.S. position. But, as we have seen, there is ample room for concern about the current state of the U.S. economy, its S&T enterprise, and the country's future ability to compete.