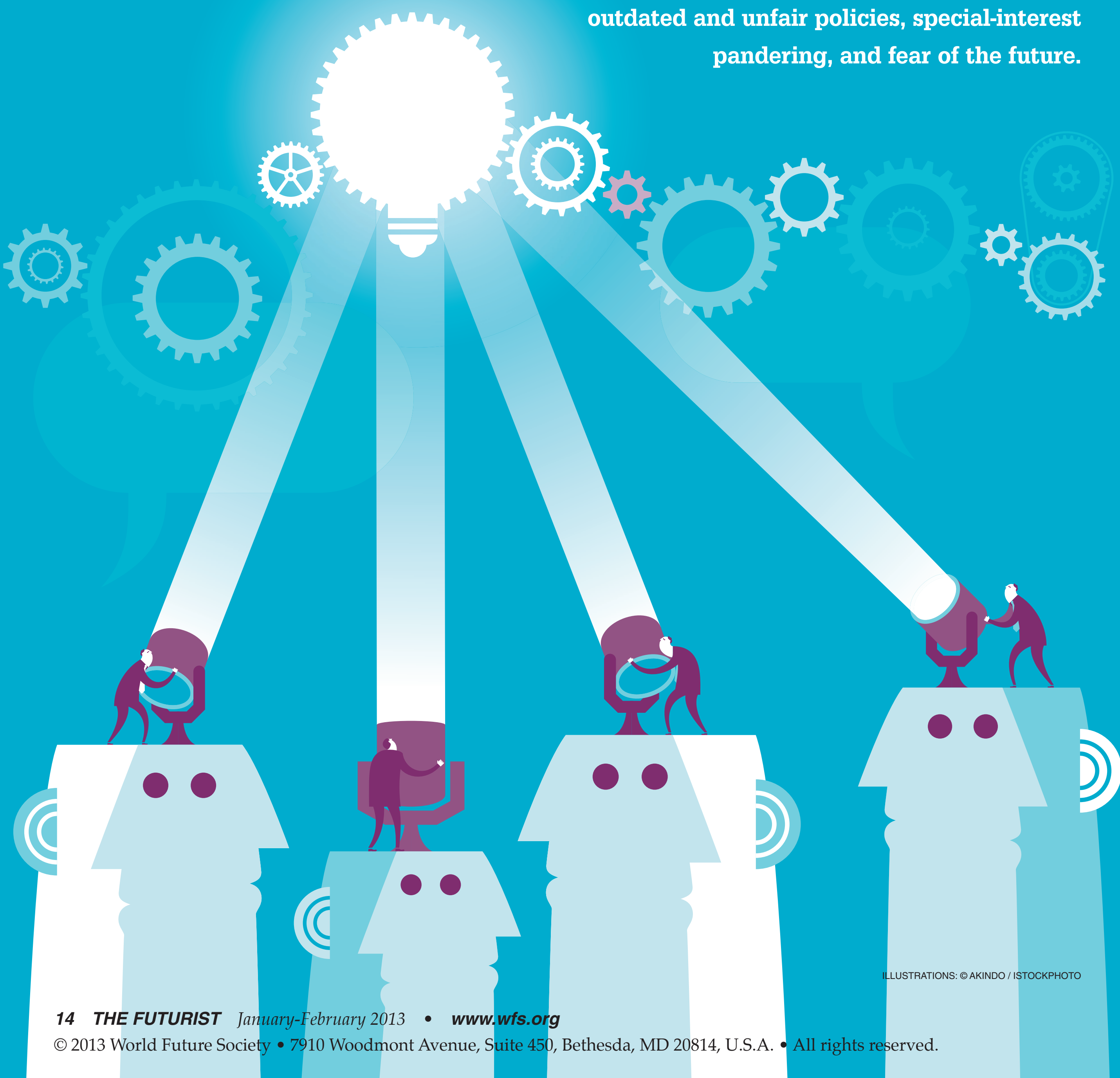
Building the Global Innovation Economy

By Robert D. Atkinson and Stephen J. Ezell

By kickstarting innovation around the world, pressing economic challenges could be solved in ways that benefit both individual nations and the world as a whole. Obstacles to overcome include outdated and unfair policies, special-interest pandering, and fear of the future.



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To a rational observer, we should be in the midst of a Golden Age for innovation.

Nations around the world are establishing national innovation strategies, restructuring their tax and regulatory systems to become more competitive, expanding support for science and technology, improving their education systems, spurring investments in broadband and other information technology (IT) areas, and taking a myriad of other pro-innovation steps. But unlike the old competition between the U.S. states, where they generally played by national rules established in the Constitution, a new approach, "innovation mercantilism," is emerging.

What is innovation mercantilism? These are national policies that seek to attract or to grow high-wage industries and jobs at the expense of other nations. They are zero-sum, beggar-thy-neighbor policies in violation of the spirit and/or letter of the law of the global trading system. They can entail stealing intellectual property, discriminating against foreign technology firms, requiring foreign firms to transfer technology for market access, or manipulating currency. While innovative mercantilist policies can protect or serve certain short-term national business interests, they make the global economy less prosperous and more fragile.

Given how important innovation policy is, it is perhaps surprising how many nations get it wrong. As nations struggle for innovation advantage, a growing number, led by China, have adopted innovation mercantilism as their policy. As a result, the world produces significantly less innovation than is possible and is needed. The major challenge for the community of nations, therefore, is to create a robust global innovation system with considerably higher rates of win-win innovation and considerably lower rates of win-lose innovation.

We envision the global race for innovation advantage as one in which virtually all nations win, with higher productivity and per-capita incomes, new and better products and services, and a better quality of life for all. We picture a world in which potentially catastrophic problems of hunger, disease, and environmental degradation are effectively tackled, reducing the risks of wars over scarce resources. In our vision, transformative technological and scientific advances help unite nations and people in common pursuits.

And finally, we see old global institutions upgraded and redesigned for a global marketplace characterized by cooperation and fair play. The old-age Washington Consensus, designed sixty years ago for a postwar world, would be replaced with a newly minted Innovation Consensus designed for today's geopolitical and economic arrangements. It sounds too good to be true. But it doesn't have to be.

While it's not clear that we can achieve this vision, there is really no compelling reason why not. Even if there is an inherent "speed limit" for innovation that we can't exceed, we are not anywhere close to approaching it. Maximizing innovation requires the will and the resources to do the right thing.

Unfortunately, too few nations are organized in ways to maximize innovation. Nations underinvest in innovation because many of its benefits spill over to the rest of the world. Too many nations are focused on innovation mercantilism, which sometimes boosts innovation within their borders, but reduces innovation elsewhere. And the de facto system of global governance is not designed to spur nations to do the right thing or to deter nations from doing the wrong thing.

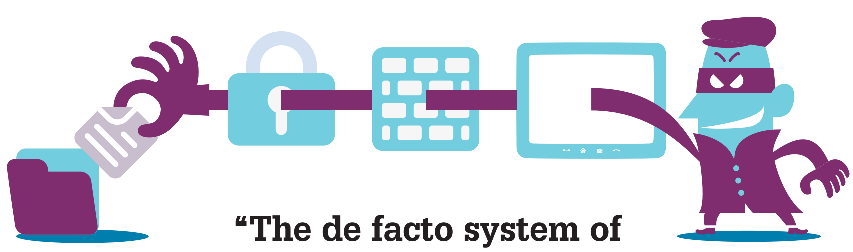
In this article, we propose three steps to address those obstacles and kick global innovation into high gear.

A Bretton Woods for the Innovation Economy

In 1945, representatives from 44 nations met in the small resort town of Bretton Woods, New Hampshire, during the height of World War II to make financial arrangements for the postwar world after the expected defeat of Germany and Japan. It was then that the plans for the World Bank and the International Monetary Fund were created, with the General Agreements on Trade and Tariffs, precursor to the World Trade Organization, created two years later. The global trading system more or less worked for about forty years. But as the commodity-based manufacturing system evolved into the specialized global innovation economy, the strains on the Bretton Woods framework have become ever more pronounced.

If we are to create a robust global innovation economy, the most important place to start is with the recognition that we need an international innovation policy framework. Instead, the consensus of global governance institutions like the IMF, the World Bank, the WTO, and others today (sometimes called the Geneva Consensus) is based on a 200-year-old economic theory. This is the theory of comparative advantage.

Comparative advantage theory says that each nation has a "compar-



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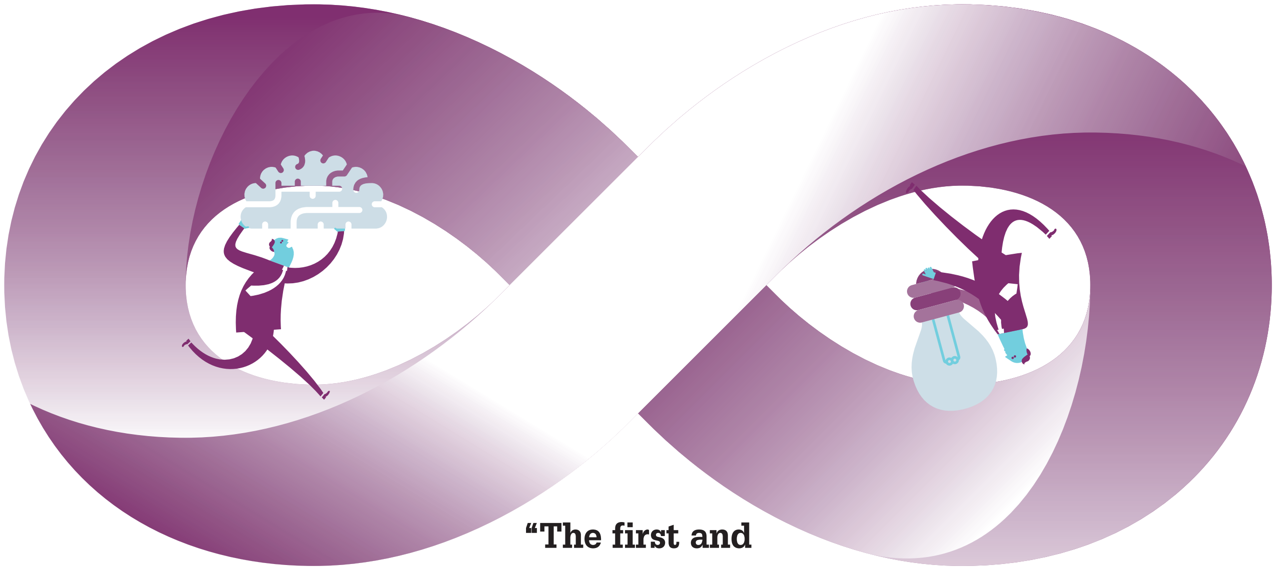

> **“The first and central task of global economic policy should be to encourage all nations to make boosting innovation and productivity their top economic priority.”**

ative,” not absolute, advantage in some things. Even if one country is superior to another in the production of two different goods, if that country focuses production on the good for which it has the highest *relative* advantage, and the other country focuses on the second good, both countries will benefit from trade. For example, England may produce cloth 40% more efficiently and wine 20% more efficiently than Portugal, but if England specializes in cloth production and Portugal on wine, average output will be higher and both countries will benefit.

This has become economic religion for the holders of the Geneva Consensus. Removing trade barriers, usually seen as tariffs in the name of free trade, is a top priority. To be sure, reducing barriers to free trade would help boost global GDP, but actually not by that much, especially compared with policies that would boost innovation. Put another way, the problem with the Geneva Consensus is not so much that free-trade theory is necessarily wrong, but that fighting for the removal of tariffs and trade barriers isn’t as important a priority as promoting global innovation. Dynamic efficiency (innovation) and productive efficiency (productivity) are much more important, domestically and globally.

Step One: Develop a New Geneva Consensus around Innovation

As such, the first and central task of global economic policy should be to encourage all nations to make boosting innovation and productivity their top economic priority. Doing this means working to develop a new Geneva Consensus that puts the promotion of sustainable innovation at the top of the list. And by “sustainable innovation” we mean innovation focused on boosting productivity and adding to the global stock of knowledge. This means focusing more on issues of IP protection; enactment of voluntary, industry-led global standards; reduction of discriminatory indigenous innovation policies; and other similar actions.

Step Two: Reform International Institutions

The second step is to revamp the mission of existing international bodies, not only to better support sustainable global innovation but also to fight against innovation mercantilism. This means stronger enforcement by global bodies like the WTO against beggar-thy-neighbor mercantilist strategies. It means no longer promoting export-led growth as a key solution to development. It means tying assistance to steps taken by developing nations to move away from such negative-sum mercantilist policies. It means rewarding countries whose policies are focused on spurring domestic productivity instead of protecting the status quo or growing solely by exporting (or limiting imports).

• **Reforming the International Monetary Fund for Innovation.** The IMF should start by calling out nations that are chronic currency manipulators. The fact that it has not yet formally declared China a currency manipulator suggests that the IMF is a paper tiger. After getting tough with currency manipulators like China, the IMF should tie any future financial assistance not to whether governments cut spending to get budgets under control (the current practice), but to whether they are putting in place policies to drive domestic innovation and productivity.

Enacting these true innovation policies risks the opposition of powerful interests: unions and workers who may be displaced; domestic producers, including small businesses, who enjoy cozy relationships and low levels of competition; able-bodied individuals who are paid for not working; and government bureaucrats whose top-down control is challenged.

It is only by spurring competition, allowing new business models to take hold (e.g., allowing big-box retailers to displace inefficient momand-pop retailers), and deploying the best production tools—often by increasing the use of information technology (IT)—that these nations will see fast increases in standard of living. But without carrots and sticks to move in this direction, these nations will continue to take the easy way out: innovation mercantilism. Nations that work in the direction of sustainable innovation should be rewarded with IMF support; nations that do not should be left to fend for themselves.

• **Reforming the World Bank.** For its part, the World Bank should make a firm commitment that it will stop encouraging policies designed to support countries' export-led growth strategies. Indeed, it should place a moratorium on all such policies. If countries insist on pursuing innovation mercantilist practices, the World Bank should cut off support. At the same time, the World Bank sorely needs institutional innovation to begin seeing its mandate as achieving a more globally balanced international economic system. The G20 countries, as the primary sponsors of the World Bank, must tackle this issue head-on. Specifically, the G20 should demand from the World Bank, within a year, a new strategic plan for completely revamping its approach with a focus on win-win innovation policy.

To be sure, the innovation strategy that the World Bank crafts for truly lagging developing countries, notably in Africa, should be distinct from those for other developing nations. And exports are certainly part of any nation's economic growth strategy. But an exports-only strategy must be revised to reflect today's world. Innovation-based growth in Africa will be much more about adopting and leveraging information technologies, such as by improving access to broadband Internet and improving education, health care, and public infrastructure.

Indeed, IT has played a vital role in raising productivity and contributing to more-efficient markets in many developing countries. For example, a 10% increase in broadband penetration increases per capita GDP growth in low- to middle-income countries by 1.38% Likewise, a 10% increase in mobile phone penetration in low- and middle-income economies adds 0.81% to annual per capita GDP growth. And a survey of 20,000 businesses in low- and middle-income countries found that firms using IT have faster sales and employment growth and also higher productivity.

Accordingly, a recent World Bank study urged nations to adopt more balanced policies regarding IT adoption and use, arguing that doing so could lead to stronger economic growth. These are the ways the global community should be supporting economic growth in developing countries, not by encouraging businesses to decamp from the developed world to relocate to the developing world.

• **Reforming the World Trade Organization.** For its part, the WTO needs to worry less about preserving the myth that the current global trading system is based on free trade, and more about aggressively attacking innovation mercantilism. In addition, the opaque, Geneva-based WTO is long overdue to become more transparent and open. For example, the WTO routinely classifies certain documents as internal rather than official WTO documents, allowing them to remain hidden to the public.

Step 3: Foreign Aid and Development Funds for Innovation

The third step toward an innovation-oriented global economic policy is for developed countries to work alongside international development organizations to reformulate foreign-aid policies. Both "carrot" and "stick" tools are needed to draw and prod countries toward the right kinds of innovation policies. Two economic principles should guide developed countries' foreign-aid policies.

First, foreign aid should be geared toward enhancing the productivity of developing countries' domestic, nontraded sectors, not toward helping their export sectors become more competitive in global markets.

Second, countries that impose significant barriers to trade and blatantly engage in IP theft, currency manipulation, and other mercantilist policies should have their foreign-aid privileges withdrawn. Countries running up huge trade surpluses should simply not be receiving any foreign aid, regardless of how poor they are. The message to these countries should be that, if they want to engage the global community for development assistance, then mercantilist practices cannot constitute the "dominant logic" of their innovation and economic growth strategies.

One astounding example is the Global Fund to Fight AIDS, Tuberculosis, and Malaria, which pools countries' donations to fight these pernicious diseases into one coordinated fund. Resource-strapped countries receive grants to purchase medicines, build health programs, and prevent these diseases from spreading. The Fund's founders envisioned the resources going to places like Lesotho, Haiti, and Uganda, where these diseases have reached crisis levels. But during the eight years since the Fund was launched, China—a country with more than $3 trillion in foreign currency reserves—has become the fourth-largest recipient of funds, having been awarded nearly $1 billion, or almost three times more than South Africa, one of the countries most affected by these diseases.

Developed nations also need to stop directly enabling innovation mercantilism on the part of the nations they assist. There are many examples of this. For instance, the Overseas Private Investment Corporation (OPIC), a U.S. governmental corporation whose mission is to help American companies invest overseas, funded a venture investment bank that made high-tech investments in India in technology companies that were competing directly against U.S. companies.

A Rising Tide Doesn't Lift Leaky Boats

The notion of a rising tide lifting all boats has merit, and we do not suggest that international efforts to boost economic development are in-

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Two Possible Paths Forward

The Trans-Pacific Partnership (TPP) could provide a model for how to organize a new trade zone such as that described in this article. The TPP represents a vehicle for economic integration and collaboration across like-minded Asia-Pacific region countries—including Australia, Brunei, Chile, Malaysia, New Zealand, Peru, Singapore, Vietnam, and the United States—that have come together voluntarily to craft a platform for a comprehensive, high-standard trade agreement.

It's unlikely that the TPP will work out this way, however, since a number of the nations involved have extensive mercantilist policies. Countries that would like to participate in such expanded trade partnerships, whether the Trans-Pacific Partnership or a potential Trans-Atlantic Partnership, must abandon wholesale their mercantilist practices.

This proposal is not meant to be Pollyannaish; to be sure, every country, including the United States, has at least some mercantilist policies, often as a result of internal political forces. It's not to say that only perfect countries with unblemished trade records can participate. The point is that countries whose dominant logic toward trade is predicated on export-led growth and the use of beggar-thy-neighbor mercantilist practices would simply not be invited to participate. If countries want the benefits of participating in a global trade system, then they must play by the rules of that system.

Another way forward is through more capable international institutions to support global science and innovation. Now more than ever, the benefits of research flow throughout the world. As a result, nations that set aside some of their current consumption to invest in science and research are helping not just themselves, but also the entire world.

But there is less investment in science and research than is globally optimal, because some countries free ride off of others' investments in research. We see this in Europe, for example, where most science investment is the responsibility of individual nations, not the European Commission. As a result, the EU as a whole invests less in research as a share of GDP than does the United States. Moreover, there is less investment than warranted on challenges that are global in nature. We see this in particular on research that could produce noncarbon energy sources or address future potentially pandemic diseases.

Leading nations should therefore establish a Global Science and Innovation Foundation (GSIF). The mission of the GSIF would be to fund scientific research around the world on key global challenges. In particular, it would support internationally collaborative research. For any nation to be eligible to receive funds, it would have to commit one-tenth of 1% of its GDP in funding and be certified by the GSIF (with guidance from the IMF) as a nation not committed to innovation mercantilism.

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herently bad or are part of a zero-sum game. To the contrary, developed nations should be doing more, not less. But economic development policies should not reward and encourage mercantilist and distorting policies.

Just as the United States exerted leadership to reshape the postwar global manufacturing economy, it will need to exert leadership, along with key allies, to reshape the twenty-first-century innovation economy. To do this, America must work with the Australians, Canadians, Europeans, and whomever else will come aboard to lay out a renewed vision for globalization grounded in the perspective that markets should drive global trade; that countries should adhere to their trade agreements; that genuine, value-added innovation drives economic growth; and that fair competition forces countries to ratchet up their game by putting in place constructive innovation policies that leave all countries better off.

This task won't be easy, but it should be the top foreign economic policy goal of these nations. But even if these nations will not join with the United States, America can't afford not to act on its own.

For the United States, the tendency will be to let global political and national security concerns trump concerns about economic competitiveness. All that has to happen is for North Korea or Iran to threaten making a nuclear weapon, and the United States will likely cease to place any economic pressure on China. But the attitude that the United States has had since World War II—that it can afford to put economic competitiveness second—is no longer tenable, especially because a weak U.S. economy increasingly imperils both its defense industrial base and its national security and foreign policy priorities.

As for Europe, both the European Union (EU) and its individual states have been loath to stand up to innovation mercantilists for the simple reason that they hope to benefit from their practices. Perversely, by playing "the good cop" against America's "bad cop," European leaders hope that the mercantilists will punish American companies, not theirs, and that for once Europe will be on top of the innovation economy.

The United States is lagging behind many European countries in several measurements of innovation progress, but Europe still sees the United States as a formidable competitor that needs to be checked. As one British scholar explained to us, "We Europeans would like to see you Yanks taken down a notch. Then we could be the innovation leaders." But there is no reason to think that mercantilists won't turn their sights on European leadership, just as they have done on American supremacy. Countries like China play the "divide and conquer" game all too well.

Finally, innovation mercantilist nations like China, Brazil, and others will likely oppose any efforts to create a new global innovation framework. China will likely claim that

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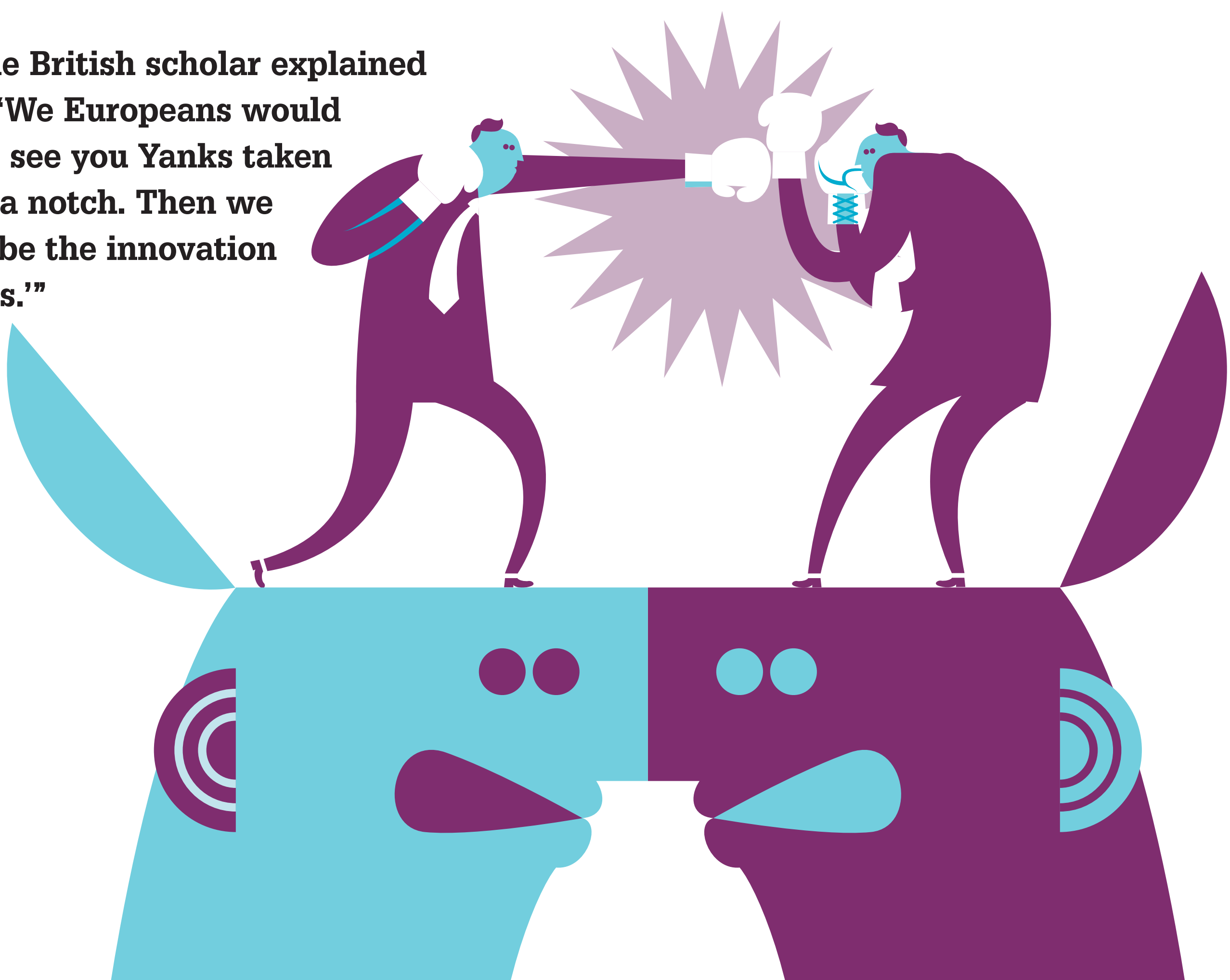

what they do in their own economy is no one's business but theirs. That claim is completely without justification when their activity affects the global economy unfairly and violates the spirit if not the letter of the WTO. If they want to be left alone, they should pull out of the WTO and all other international economic agreements—and stop receiving any and all foreign aid, including from the World Bank.

Brazil and its fellow travelers in the developing world will likely rely on guilt to make their case: *We're just a poor Southern Hemisphere nation oppressed by you Northern developed nation imperialists.* In fact, the North–South divide that was a central theme for many years has begun to give way to a more complex system marked by the arrival of advanced developing countries and global supply chains that transcend the geographic location of a country.

The reality is that, without innovations like computers, the Internet, and biotechnology—which were introduced by developed nations that invested hundreds of billions of dollars to create them—developing nations would be significantly worse off. Even leaving this aside, the fact that nations are developing simply does not give them the moral standing to steal intellectual property or engage in a host of other mercantilist practices.

If developed countries can muster the will and the ability to cooperate, a first priority should be to reformulate their trade and aid agendas. One of the biggest challenges for the United States and European nations is that their trade policies are structured to play "whack a mole." They expend enormous resources to identify, respond to, and combat particular instances of foreign countries' contravening international trade agreements to the detriment of their businesses (the actual harms from which must also be legally established). U.S. or European trade policy rarely rises to the level of broader principles, such as insisting that other countries "desist with this generalized practice." Because U.S. and European trade policies are organized in a legalistic framework to combat unfair trade practices on a case-by-case basis, it becomes difficult for them to put in place a comprehensive trade strategy designed to stimulate competitiveness and innovation.

At the end of the day, developed countries are going to have to abandon the notion that unrepentant mercantilist nations are somehow going to play by the rules if we just play nice with them. Accordingly, the United States, Europe, the Commonwealth nations, and perhaps Japan should create a new global trade zone, involving those countries genuinely committed to adhering to the principles of open, free, and fair trade. Countries that insist on pursuing mercantilist strategies would not be welcomed into this new arrangement.

Toward U.S. Innovation Policy Leadership

In the 65 years following World War II, most nations looked to the United States to lead the process of global economic governance. And given that the United States renounces innovation mercantilism, it should also play a leadership role in ensuring that the global economy is structured in a way that maximizes innovation. But as discussed above, this means developing a new understanding that global action should be designed not to maximize flows of goods across borders, as important as that is, but to maximize global innovation.

In the end, the race for innovation advantage will only get more intense and heated. It's therefore critical that the United States and its free-trade allies take the needed steps now to contain and roll back the rampant innovation mercantilism being practiced by countries like China. They must ensure that the global economy evolves in a way that favors free trade and competition based on good innovation practices, especially as an increasing number of nations develop and expand their own innovation and competitiveness policies.

As George Kennan stated in his long telegram (1946) about the rise of the Soviet Union being a test of America's greatness, we can also hope that the new race for global innovation advantage will spur America out of its slumber and divisiveness to again become the global innovation leader—not just as a front-runner in the race, but as a referee to ensure that the race is fair and that everyone benefits from the competition. ❑


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Robert D. Atkinson is the founder and president of the Information Technology and Innovation Foundation (ITIF), a technology policy think tank based in Washington, D.C. He is also author of the book, *The Past and Future of America's Economy: Long Waves of Innovation That Power Cycles of Growth* (Edward Elgar, 2005), and the *State New Economy Index* series.

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