THE RACE TO INNOVATE

Techno-envy: Anyone who's been to Japan knows the feeling—walking among the endless electronics emporia of Akihabara, the epicenter of Tokyo consumer technology, is like stepping a decade into the future. You see cell phones that double as credit cards and GPS devices with real-time traffic displays. Americans, recalling their plastic-stuffed wallets and bumper-to-bumper traffic back home, gaze in awe.

There is no secret to Japan's technological strength. It comes from a decades-long public commitment to innovation—not just investment or coordinated R&D policies but product development and implementation. Take real-time-traffic GPS devices. The technology is old hat, but no single company had enough resources to build a system for tracking the tens thousands of cars needed to create a useful map of traffic flows—and if one did, it would likely keep it proprietary, keeping most drivers out of the loop. So the Japanese government created its own system by putting transponders on government vehicles and buses and requiring they be placed in taxis; it then opened the system to any company that wanted to use it. The result? A rich, real-time map of Tokyo traffic in almost every car, leading to smoother commutes, less pollution, and safer streets.

Japan isn't alone. After German unification, the government took advantage of legacy technology centers in eastern cities like Dresden and Chemnitz and, by promoting market development, reform of local university research centers, and industry coalitions, turned them into investment and jobs magnets. Today, those cities are world leaders in green technology, optics, and semiconductors, and they have lower unemployment rates than many of the old industrial centers of western Germany. Such success stories are commonplace these days, the result of a rising global appreciation for the role that innovation plays in local, national, and international economies—and the role that government, through regulation as well as investment, must play in promoting it.

Innovation, put simply, is the implementation of new technologies and processes that lead to productivity growth. It is how we get from that "eureka" moment of invention to discovery to a transformative impact on everyday life. As economists learn more about the role innovation plays in economic growth, it is becoming increasingly clear that the U.S. government must do more to spur and shape innovation. That's why *Democracy* decided to put together this special package on innovation and the economy. With a generous grant from the Intel Corporation—and in partnership with the Aspen Institute and the *NewsHour* with Jim Lehrer—we gathered insights from some of the nation's leading experts on what it will take to make our economy competitive and more innovative.

In a globalized world, conventional economic factors like geography are much less important than relative technological progress to a country's global competitiveness. Not surprisingly, as economic analyst Stephen Ezell documents in these pages, dozens of countries have adopted national innovation strategies and established centers to foster and coordinate innovation in fields as diverse as mining and medicine.

The exception is the United States. As Information Technology and Innovation Foundation's (ITIF) President Robert Atkinson shows, the federal government still sees innovation as something akin to magic, offering blunt, supposedly "pro-business" policies like tax cuts intended at most to sow the seeds for serendipity. The United States is only now getting around to writing a national broadband strategy—a necessary step, but one our peer countries took long ago.

As many of our authors show, benign neglect has long been government's attitude toward innovation in the manufacturing and IT sectors. The same is true in education and finance. Teach for America's Kevin Huffman demonstrates that while America has grown more accepting of innovation-friendly initiatives like charter schools and alternative teacher certification, it assumes that any resulting good ideas will simply rise to the top. But that is to ignore reality: Too often, even stellar innovations get lost in the din of education and local politics.

They need objective assessment and federal and state support to be heard and adopted on a national level.

Ironically, such a blunt, hands-off approach also makes it harder when, in finance, we actually have too much innovation. While it is hard to imagine the downside to too much R&D in, say, auto manufacturing, economist Simon Johnson and entrepreneur James Kwak argue that, too often, financial innovation merely increases risks without increasing social value—indeed, this is precisely what happened in the 2000s, during which a hands-off regulatory approach led to wildly profitable yet wildly risky financial innovations and, inevitably, the collapse of the Jenga tower that was Wall Street circa April 2008. The diagnosis is different, but Johnson and Kwak's prescription is the same: Financial regulators need to view innovation not as a magic process we can never hope to understand, but as an economic force that can be regulated, guided, and fostered.

True, we don't know exactly which innovations will drive growth in the next half-century, just as no one could have predicted the power of the Internet 30 years ago. And yet the Internet was itself the product of a bygone era in which the government wisely invested in R&D and product development, then ushered their results into the marketplace. Fortunately, there is a lot we can do, as Brookings' Howard Wial and Cornell's Susan Christopherson demonstrate with their proposals for, respectively, a national innovation foundation and federal investment in agile "phoenix" industries that are rising in former manufacturing cities.

The next Internet—or steam engine, or biomedical breakthrough—won't emerge because we simply lower taxes, lighten regulation, close our eyes, and pray. It will emerge because of concerted public efforts to boost R&D, product development, and marketing, all things that the rest of the world does with ease. It's high time America got in the game.

America and the World: We're No. 40!

Stephen Ezell

In Japan, citizens check in to airlines, pay transit fares, and bank through their cell phones. Average broadband speeds in 15 countries are faster than in the United States. And in Finland, virtually all primary care physicians use electronic health records. Germany leads the United States in innovation and development of solar cells, Denmark leads in wind power, Japan leads in

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