Review: The politics of jobs

by William B. Bonvillian


Speaking recently to a group of lawyers, Ralph Cicerone, president of the National Academy of Sciences, voiced concern about U.S. science literacy and called for expanding the science talent base. The lawyers took him on. In contrarian lawyer fashion, they asked: Why should we pay for this huge education bill? Why can’t scientists just be a small elite group? Why do we need more science education and more scientists? Although Cicerone legitimately could have asked why we need more lawyers, he instead responded by saying that science education isn’t just a matter of whether we can keep our economy but whether we can also keep our democracy.
Richard Freeman implicitly asks the same question. A leading labor economist, Freeman respects the dynamism of the U.S. labor market, yet expresses fears about its disparities. He considers the U.S. labor market to be exceptional, because of its weak safety net and modest regulatory protections (in marked contrast to the extensive worker protections in Europe and Japan). Although the U.S. system has sparked remarkable job creation and productivity gains, it also has spawned painful income disparities. The bulk of Freeman’s book focuses on the dark side and makes a reader wonder if economic inequities could undermine public faith in U.S. democracy.

Freeman aims to keep the dynamism but spread the wealth. He writes that the rise of a global economy and the emerging worldwide labor markets it has created are putting downward pressure on U.S. wages in more and more sectors. He notes the consequences of the decline of unionism and workers’ corresponding loss of workplace influence. Looking at European precedents, he calls for extending collective bargaining settlements to non-unionized firms through a new form of worker association. He calls for a licensing system for corporate board members as a means to rein in boards that are so loyal to chief executive officers that they approve top executive pay scales derived from astronomy.
And he wants a federal agency to push for employee ownership and workforce profit-sharing. The old left would call these measures at best half-hearted; conservatives will denounce them as destructive of the free labor market that is central to U.S. productivity growth. At heart, though, Freeman embraces growth economics and economist Robert Solow’s teaching that technological and related innovations create the vast share of economic growth. To keep the dynamism but mitigate its effects, there is no substitute for growth; to share more of the pie, there will have to be an expanding pie. The problem for Freeman is not continuing productivity gains but how to distribute the benefits of those gains more broadly. His formula is a familiar one from growth economics: Bolster R&D funding and increase the pool of research scientists and engineers through a new system of financial incentives. Let’s now return to the economic side of Cicerone’s comment. Why is Freeman arguing that economic growth demands growing the science talent base? This, after all, is an argument that is now widely accepted. Brain scientist Steven Pinker recently called the U.S. failure during the past 20 years to increase scientific talent “unilateral competitive disarmament.” Some 50 major reports from industry, government, and academia since 2002 have reached similar conclusions. In the world of white papers, 50 is a raging torrent. On May 1, 2007, the U.S. Senate, in a rare moment of bipartisan concurrence, voted 88 to 8 for legislation that follows Freeman’s prescription: Raise R&D investment and spend billions on science and math education to expand the nation’s supply of scientific talent. The House has embarked on a parallel path; on May 21, 2007, it passed a similar package of bills on its suspension calendar because there was so little dissent that a formal vote wasn’t needed. Freeman’s supposition is approaching common knowledge. But why will growing science talent grow an economy? Freeman answers by pointing to a case study, China, which seems to think the question is settled. In the old North-South world
economy model, advanced countries with highly skilled workers, led by scientists and technologists, produced cutting-edge innovations, whereas developing countries produced low-technology products. The North’s high-tech monopoly commanded monopoly-like rents and therefore high wages for its skilled workers. Freeman argues that this North-South model is ending because nations such as China and India have figured out that developed countries are not the only ones that can have the skilled technical workforce needed to compete for innovation-led growth. Lower-income countries with large, poorly educated populations can nonetheless graduate large absolute numbers of scientists and engineers. He notes that growth is not tied simply to the number of scientists and engineers; it is tied to the number working on innovation problems. There has to be R&D as well as education. He follows economist Paul Romer’s dictum that growth isn’t causally linked just to human capital; it is human capital engaged in research. The nation that finds the most gold will be the one that fields the largest number of well-trained prospectors engaged in prospecting.

Freeman uses the phrase “human resource leapfrogging” to describe the process of moving up the technological innovation ladder by deploying large numbers of scientists and engineers engaged in technology. This approach uses scientific and technical talent to leapfrog from low-tech into high-tech and then into comparative economic advantage. Because China and India both have large low-wage workforces and large numbers of highly educated workers engaged in technology, they can leverage this low-cost/high-tech combination to become powerful competitors to established advanced technology countries. Freeman notes that China is embarked on exactly this strategy: rapidly educating growing numbers of researchers, battling to improve education quality and create first-class universities, and multiplying R&D investment to engage that new talent. He acknowledges that although China has a long way to go in fulfilling this design, we have seen enough of its strategy and its corresponding growth
curve to know that it is working. Like economist Paul Samuelson, Freeman concludes that comparative advantage in innovation-based goods and services, unlike comparative advantage in natural resources, is temporary; it can be seized by new innovators in the relentless pace of disruptive and destructive capitalism.

What is the proper response? Because a county like China has such vast numbers in poverty, it will be many decades before it moves to anything like wage parity with the developed world. This makes for a radically more complicated competition than the United States faced with Japan and Germany, fellow high-wage nations, in the 1980s and 1990s. Now that an information technology–enabled global labor market is developing, downward pressure on U.S. wages will only grow. The only response, Freeman argues, is to innovate. “The challenge to U.S. policy-makers and firms is to invest in science and technology so that the country maintains comparative advantage in enough high-tech areas to keep it in the forefront of the world economy in the face of low-wage competitors,” he writes.

LIKE ECONOMIST PAUL SAMUELSON, FREEMAN CONCLUDES THAT COMPARATIVE ADVANTAGE IN INNOVATION-BASED GOODS AND SERVICES, UNLIKE COMPARATIVE ADVANTAGE IN NATURAL RESOURCES, IS TEMPORARY.

The ties between the success of U.S. economic well-being and the success of its democracy have always been strong; U.S. democracy has long had a deep embrace of opportunity. Freeman’s answer to the question the lawyers posed to Ralph Cicerone seems to be that if we want to keep a robust democracy, we will have to keep a strong economy as well; as Cicerone suggested, he sees economic opportunity as an anchor of democracy. Freeman argues that the size of our science talent base will have a lot to do with both.
This isn’t the usual economics tome, packed with neoclassical economic formulae that make the dismal science a dismal read. Freeman writes for a general but informed audience; the book’s points are built around data so that it has heft, not just argument, and it is written in a lively, succinct, clear-headed, and highly graspable style. Some will disagree with Freeman’s grim pictures of disparity, and many with his brief set of safety-net policy prescriptions, but his question of how to keep an advanced technological society advancing and how to spread the gains from its advance will have to be reckoned with.

William B. Bonvillian (bonvill@mit.edu), director of the Massachusetts Institute of Technology’s Washington, DC, office, worked as a U.S. Senate staff member for 17 years.

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine