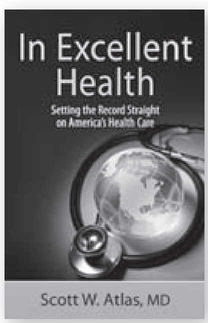
In Review

Is U.S. Health Care Less Efficient than Other Countries' Systems?

REVIEWED BY H.E. FRECH III

In Excellent Health: Setting the Record Straight on America's Health Care
By Scott W. Atlas, MD
359 pages; Hoover Institution Press, 2011

It is commonly claimed that the American health care system is inefficient compared to other countries' systems, and therefore major changes for the U.S. system are in order. For example, Paul Krugman, in a March 28, 2008 post on his *New York Times* "Conscience of a Liberal" blog, wrote, "Everyone knows that the US spends much more on health care than anyone else, without getting better results." In a speech before the American Medical Association in 2009, President Obama said that "we are spending … almost 50 percent more per person than the next most costly nation. And yet … we aren't any healthier. In fact, citizens in some countries that spend substantially less than we do are actually living longer than we do." Donald Berwick, a health care expert who was the administrator of the Centers for Medicare and Medicaid, wrote in 2008 that "[d]espite spending on health care being nearly double that of the next most costly nation, the United States ranks thirty-first among nations on life expectancy (and) thirty-sixth on infant mortality."



These arguments about efficiency of health care systems are based on the economic concept of a production function or relation. This is called "household production" because households use health care and other inputs to produce health. Personal characteristics such as education, income, pollution, lifestyle, culture, and possibly genetic differences are important inputs into the production of health. Health is unobservable, so indicators, most commonly life expectancy and infant mortality, are used as proxies for health. These indicators are used because of wide availability and a belief that they are reasonably well measured. But they ignore the quality of life. This is a problem because much health care is intended to improve quality of life rather than to reduce mortality.

The claim of U.S. inefficiency flows primarily from an overly simple view of the production of health: the idea that health is produced only by health care or that the other inputs do not differ much by country. This view ignores other inputs that affect health and that vary from country to country. Economists, including me, have pointed out that there are many problems with this and with the data definitions and measurements that are used in international comparisons. My colleagues Stephen Parente and John Hoff and I are continuing work in this area. All the health care systems have inefficiencies and distortions, but the bottom line remains: the U.S. health care system is probably no less efficient than the systems of other developed countries.

Scott Atlas's informative new book *In Excellent Health* takes up much of this argument in a nontechnical way, from the viewpoint of a physician. He illustrates his arguments at a thought-provoking level of clinical detail. Many of the analyses are known to some researchers in the relevant areas of economics, demography, or medicine. This book provides an excellent, accessible summary for specialists and nonspecialists alike.

WHO index and rankings | In this book, Atlas first tackles the 2000 World Health Organization index and rankings of health care systems, where the U.S. system was ranked 37th in "overall performance" and 15th in "overall attainment." The index underlying the ranking was based on subjective factors that are not directly related to the comparative efficiency of health care systems. For example, financial fairness and health distribution constitute 50 percent of the rankings, while actual health only counts for 25 percent. Further, missing data for many measures of many countries were filled in by judgments of what the WHO calls "informants." This analysis is useful and nicely explained.

Life expectancy and confounding external factors | Atlas then critiques the use of life expectancy as a proxy for health output. First, it is heavily dependent on infant mortality, which I discuss below. Beyond that, Atlas notes the importance of other factors that affect life expectancy that are not related to the productivity of health care.

Atlas lists 25 factors that are external to the health care system but that strongly

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influence life expectancy. As he points out, it is a serious mistake to assume that these factors are somehow controlled by, or even much influenced by, the health care systems. Atlas nicely illuminates this point by noting that the life expectancy at birth of Americans of Asian and Pacific Island background is almost as high as the Japanese (the highest country level), 81.5 versus 81.8 years, while the U.S. average over all ethnic groups is 77.2 years. This potent image calls to mind Victor Fuchs's earlier comparison of age-specific mortality of residents of Nevada versus Utah. The differences were spectacular, even though the health care systems were virtually identical. The excess mortality for Nevada was about 60 percent for both males and females aged 40–49 and about 38 percent for infants. Fuchs's and Atlas's messages are the same: lifestyle and other external inputs into the production of health are vitally important.

Unfortunately, the influence of these other inputs on health confounds an attempt to compare the efficiency of the U.S. health care system to other countries' systems. Lifestyles are generally much less healthy in the United States than other developed countries. Consider Atlas's discussion of three categories of these external factors: accidents, suicides, and murder; obesity; and smoking.

One might think that health care matters for deaths from accidents, but I believe that this is a minor issue. The main issue, after an initially serious but not-yet-fatal accident, is the speed with which the individual reaches a hospital. Indeed, it is called the "golden hour." The time to treatment is largely explained by population density. Studies of traffic fatalities, such as those by Michael Morrisey and David Grabowski, achieve very good explanatory power across U.S. states without using any health care variables at all. Atlas reports on an adjustment that standardizes all countries to the Organization for Economic Cooperation and Development average death rates from these external causes. In other words, it answers the question: What would be the life expectancy of these countries if they all had the average OECD death rates from these external causes? The result shows that the United States was ranked low in raw life expectancy, but much higher in standardized life expectancy.

Obesity, conventionally defined as having a body mass index above 30 (e.g., 209 lbs. for a 5 ft., 10 in. person) is both harmful to life expectancy and also raises health care costs. Obesity itself is an intermediate product, being produced by underlying cultural attitudes and lifestyle choices such as exercise, diet, and even urban design. None of these causes are importantly influenced by the health care system. The United States is by far the most obese country in the developed world, with 34 percent of the population considered obese. (In comparison, the United Kingdom is second, with 24 percent, and Canada is third, with 16 percent. Is speaking English a risk factor?) Atlas cites a finding that obesity affects life expectancy with a substantial lag of about 25 years for the full effect. William Comanor, Richard Miller, and I found that controlling for obesity (with a time lag of about 10 years) accounts for a bit more than half of the difference between U.S. life expectancy and what the life expectancy would be if the United States had average OECD countries' apparent productivity. In other words, if one doesn't control for obesity, the United States looks relatively inefficient, but simply adding even an imperfect control variable for obesity eliminates a bit over half of the apparent difference.

Smoking is obviously detrimental to life expectancy. One might think that this is not an issue for comparing the United States to other developed countries because U.S. smoking rates in the past 10 or 20 years are not high by international standards. Indeed, David Squires, in a recent Commonwealth Fund report, makes that argument. But analyzing this relationship requires a longer horizon. Atlas reports a surprising fact: For 50 years, ending in the 1980s, Americans smoked more than consumers in any other developed country. Indeed, there were long periods when 70 percent of adult Americans smoked. Obviously, the change in smoking rates since the 1980s has been dramatic. This somewhat distant history of heavy American smoking is relevant for current life expectancy. The ill effects of smoking operate with a very long lag. The relationship between smoking and lung cancer is strongest at a lag of 21 years and is still nontrivial at a lag of 35 years! Indeed, demographer Samuel Preston and his coauthors have shown that prior smoking still has a strong influence on U.S. life expectancy, even in recent data. By removing smoking-related deaths from 2003 data, female life expectancy at age 50 for the United States moves from near the lowest in the developed world to the middle of the pack.

Measuring infant mortality | Next, Atlas considers the weakness of the other commonly mentioned health outcome measure: infant mortality. There are two major problems with using this measure. First, perhaps surprisingly, measures of infant mortality are not comparable across countries. Second, infant mortality is highly sensitive to external factors, especially to the lifestyle of the mother.

Taking the measurement issues first, Atlas notes that different countries have different practices and standards for whether a fragile, very high risk birth is recorded as a live birth versus a still birth. Recording a fragile birth as a live birth raises measured infant mortality. Atlas shows that in the United States, these births are more likely to be recorded as live births and that the variation among the developed countries is large and quantitatively important. Apparently, there has been only limited progress in standardizing how births are recorded, even in the developed countries. Deviating from the WHO's definition, it is still the case that many other countries define a live birth by birth weight, length, gestational age, and even actual survival time. In a recent article in the *BMJ*, K. S. Joseph and coauthors find that the number of reported births at less than 500 grams (1.1 pounds) in the United States is 16.9 per 10,000, while in Ireland and Luxemburg it is 0.0, in Belgium it is 0.4, and in Norway it is 1.9. The highest European country, England and Wales, reports only 6.2. Joseph and coauthors attribute most of the variation to differences in birth registration, which they say "compromises the validity of international rankings based on perinatal, infant, or child mortality." As a result of these registration differences, the WHO recommends that international comparisons be limited to babies who weigh 1,000 grams or more. Joseph and coauthors note that both the United States and Canada are ranked higher in such a comparison than in raw infant or neonatal mortality. Recording differences have a large effect on infant mortality because very high risk babies account for a large proportion of infant mortality. The definitional and recording differences artificially inflate U.S. infant mortality.

Lifestyle and infant mortality | Turning to lifestyle, Atlas argues convincingly that it is even more powerful for infant mortality than for life expectancy, an argument that my coauthors and I have also made. Much of the effect of lifestyle on infant mortality is summarized by birth weight or gestational age. (Low birth weight is closely correlated to low gestational age.) Low birth weight babies are much less likely to survive. For example, babies weighing less than 2,500 grams (5.51 pounds) are 20 times more likely to die than the average-sized baby, with the odds getting dramatically worse for smaller babies. The United States has a higher percentage of preterm or low birth weight babies than any other developed country. Certain lifestyle choices are especially likely to lead to low birth weights and high infant mortality, particularly teenage motherhood, smoking, and obesity. The United States leads the developed world in teenage motherhood, over 40 per 1,000 girls, which is almost double the UK's rate, four times France's, and almost 10 times Switzerland's.

Another factor that has gotten less attention is differences in treating infertility. Fertility treatment leads to more multiple births, which are far riskier than single births. The mortality rate for twins is about five times that of singletons, while for triplets it is about 12 times. Because of aggressive infertility treatment, the United States leads the world in births of three or more.

There is a natural way to adjust for some of the lifestyle effects on infant mortality and arrive at a superior measure to compare health care system productivity. That is, one could examine infant mortality for specific birth weights or gestational ages. One of the simplest ways to do this is to calculate what the U.S. infant mortality would have been if the United States had the same distribution of gestational age or birth weight as some other countries. Atlas reports several calculations of this type, showing that the U.S. infant mortality, adjusted in this manner, is quite low, comparable to Canada's, Sweden's, and Norway's. In sum, because of definitional and measurement differences and the powerful confounding influence of external factors, especially lifestyle, infant mortality is a poor measure of health system output.

In passing, Atlas notes that life expectancy is strongly influenced by infant mortality. It is also influenced by mortality at young ages, which is dominated by accident, suicide, and violence. This is the reason that life expectancy at birth is particularly inappropriate for comparisons of the efficiency of health care systems. Life expectancy at later ages, such as 40 or 60, is somewhat less contaminated by external factors and has been studied to some extent. But it is not the main emphasis one sees in broad policy discussions.

Measuring health care spending | The main goal of the international comparisons is to compare costs to benefits. Atlas does not discuss the health care spending side in a comparative context. But there are more problems there and they also tend to make the U.S. system look less efficient than it really is. To measure health care system efficiency, one needs a measure of health care resources used. Then one can compare the productivity of the health care systems. The most common and comprehensive approach is based on health care spending. Spending in the domestic currencies of the various countries is translated into a common currency (usually U.S. dollars) using some exchange rate. This is normally done using the overall, economy-wide purchasing power parity (PPP) exchange rate. The PPP exchange rate adjusts for differences in average prices across countries so that purchasing power is identical across countries. In principle, $1,000 exchanged at the PPP rate would enable purchasing the same bundle of goods in all countries. Using this economy-wide exchange rate makes sense only if the relative price of health care is approximately the same everywhere. But this is not the case. In particular, American health care is relatively more expensive, so the overall PPP exchange rate gives the incorrect impression that the United States uses more health care resources than other developed countries.

The mismeasurement caused by using the economy-wide PPP exchange rate is large and quantitatively important. This is discussed in several places, including by my coauthors and me, by Mark Pauly, and by David Squires. There are two ways to deal with this problem. First, one can use the PPP exchange rate that is specific to medical care to measure real resources used in health care. A few comparisons illustrate the magnitude of the differences. Using the health PPP exchange rate instead of the economy-wide one moves Denmark from 57 to 73 percent of U.S. spending. The biggest mover is France, which moves from 61 percent to 113 percent, higher than the United States. Alternatively, one can look at physical measures, such as the number of physicians and other health workers per capita or the number of visits or hospital stays. Doing either analysis shows the United States is not an especially high user of real resources in health care. Higher U.S. prices appear to be caused primarily by higher salaries and incomes for American physicians and, probably more importantly, for nurses and technicians.

The result of using the economy-wide purchasing power parity exchange rate is to overstate the resources going into U.S. health care, making it appear on the surface to be less efficient. But there is also another, more subtle issue in the mismeasurement of the costs of care: the hidden costs of health care in non-U.S. countries.

Hidden costs | In most other developed countries, health care prices are controlled below the level necessary to clear the markets. This is especially common in single-payer systems like those of Canada and Japan. The result is a great deal of nonprice rationing. Some of the nonprice rationing is based on professional judgment, roughly similar to that occurring in competing managed care plans in the United States. It is probably reasonably efficient. But much of the rationing is accomplished by consumers waiting for services, which leads to large hidden costs of health care. This general point has been made before and has even become a political and legal issue in some countries. Atlas documents this in valuable micro detail. For example, the wait time for cataract surgery in the United States is essentially zero, but the mean wait time in Europe is 3.5 months. Waiting causes direct harm to consumers' well-being and raises medical risks, including the risk of permanent vision loss. These waiting time costs of health care systems are not on any budget. They are difficult to track accurately because some patients never go on formal waiting lists, either because the waiting is not formalized or because they are discouraged from obtaining the care at all.

Thus, access in some systems is not as good as it appears. Having a service covered formally by a system is no guarantee of access to care. This problem also occurs in the American Medicaid program, where prices paid are set so low that the majority of physicians will not treat Medicaid patients. On average, Medicaid pays only 72 percent of what Medicare pays for the same service. In California it pays only 56 percent; in New York only 47 percent. Research by Chapin White shows that expanding the SCHIP program for children has increased insurance coverage, but has not increased utilization and has reduced access by some measures. Unlike Medicaid, the nonprice rationing problem is system-wide in some other counties. Atlas shows that for many different diagnoses, Americans obtain appropriate care more often than those in many other countries. The delay and poor access to care resulting from rationing by waiting harms health outcomes, but delay and poor access tend to be concentrated on issues that are not life threatening; therefore, they do not seem to have large effects on mortality.

Conclusion | Atlas's book is an excellent contribution to the study of international differences in health care productivity. Written in a readable, clear style, it covers many of the problems of measurement and external causes of health, often at the micro level of the individual diagnosis or service.

Atlas's findings raise an important question: Why are U.S. lifestyles so unhealthy? I suspect that the answers to that question are bound up in complex issues of culture and history, and we may never have a satisfying answer. But whether or not we make much progress on that question, it is important that we don't make policy based on misunderstanding. R

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Government and the Good Society

REVIEWED BY DAVID R. HENDERSON

Finance and the Good Society
By Robert J. Shiller
288 pages; Princeton University Press, 2012

Finance and the Good Society, the latest book by well-known Yale University economist Robert Shiller, is basically a series of short essays on various topics in finance: insurance, banking, corporate executives, philanthropy, regulation, derivatives, and many others. In the book, Shiller nicely abstains from playing to people who want to condemn finance professionals for making a lot of money. At the same time, he tries to sort out the good from the bad. He often gets things right and sometimes gets things wrong. Where he is most right is in understanding how financial markets work. Where he is most off is in failing to understand how badly the political process works and in understating some key historical tragedies caused by government.

As I review this book, I must start by confessing a bias in favor of Shiller the

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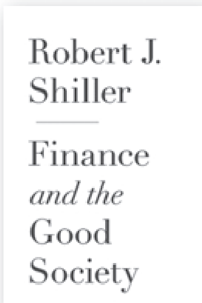
man, based on one interaction I had with him in 2003. I was being interviewed on *On Point*, a Boston radio show that is syndicated to a large number of National Public Radio affiliates. The topic was the 2003 Bush tax cut on capital gains and dividends, which I was defending. Indeed, I thought it to be substantially better, from an economic efficiency standpoint, than the more-famous 2001 Bush tax cut. The show's host, Tom Ashbrook, was quite critical of the cut, and his choice of the two other guests reflected that. One was a left-wing labor union official whose name I've forgotten; I do remember that he ranted a lot. The other was Shiller, who was also critical of the cut. So the opinions of the discussants were three-to-one opposed, with me being the one. But unlike the union official, Shiller did not attack my motives. Indeed, often when I made a point about the efficiency of this or that policy and Ashbrook looked to Shiller to refute me, Shiller prefaced his disagreement, not by marginalizing me, but rather by stating that I was expressing the mainstream view of economists and he was stating the minority view. I was so impressed by Shiller's gentlemanly behavior that I e-mailed him afterward to thank him. In reviewing this book, I will uphold the standard of politeness that he set in 2003.



Of course, I can't mention all the highlights of his book. Instead, I'll focus on the main positive contributions and the most important places where I think he goes astray.

Unconventional thinker | Shiller is strongest in—I promise that I will use only one cliché in this whole review, and here it is—"thinking outside the box." This is evidenced in his chapter titled "An Impulse for Conventionality and Familiarity." In it, he discusses why we often think so narrowly about financial issues and financial instruments. He challenges us to think more broadly.

He notes, for example, that in Chile, which had high inflation in the 1960s and 1970s, many contracts and quoted prices are not in money but in *Unidad de Fomento* (UF), which he explains is "a non-monetary unit of account indexed to inflation." Because rent is likely to be quoted in UF and there are no fluctuations in its real value over the length of the lease, the renter pays a different amount in pesos every month.

Why would that be relevant in the United States, where inflation has been low for 29 years and not that variable? It isn't directly relevant. But if prices could be denominated in real terms and not in rubber dollars, why couldn't mortgages be set up in advance with what Shiller calls a "preplanned workout?" He proposes a mortgage that specifies changes in terms in the event of a recession or a fall in home prices. Shiller argues that if such mortgages had been the norm, we "would probably not have experienced the financial crisis of 2007."

On the issue of crises, the main financial crisis in our future is likely to be paying the huge commitments governments have made to government workers, Social Security recipients, and people on Medicare. Shiller does not challenge the idea that these people have a right to some level of support in their old age. But he does suggest having the government give the support in a way that takes account of the burden imposed on those who pay. He writes, "The right to a standard of living in old age is framed in an absolute manner, and so the provision of pension benefits becomes stuck in an ancient system." His solution? "Government pensions," writes Shiller, "should instead be indexed to some indicator of taxpayer ability to pay, such as GDP." So, for example—I'm building on what Shiller suggests—the government could allocate x percent of the budget to Social Security and y percent to Medicare and then adjust payments and benefits annually based on those percentages.

Shiller also nicely explains—and defends—derivatives. The term "derivatives," he notes, "has become a dirty word." But a derivative "is merely a financial product that derives from another market, and it is not inherently good or evil." He points out that derivatives go back a long way, even having been mentioned by Aristotle. His case for derivatives is the standard one: they allow people to, in essence, buy insurance against a loss in the value of an asset.

In a terse chapter on insurance, he points out that what ultimately made the 2010 Deepwater Horizon oil spill in the Gulf of Mexico not very tragic—except, of course, for the loss of 11 lives—was the fact that insurance covered most of the losses borne by various people. I found implausible, though, his claim that, in the wake of the devastating 2010 earthquake, Haitians would have been much better off with catastrophe insurance because such insurance would have led insurers to insist on better building standards. The problem is that better building standards are expensive and Haitians are dirt poor.

Good government? | Where Shiller's book is most dissatisfying is in his treatment of government. First, he often understates the evil of government. Second, and related to the first, he treats government as if it is mainly a group of people working for the common good.

Consider his discussion of one of the main atrocities of government in the 20th century: Soviet collectivization of agriculture. Millions of farmers starved because of Stalin's actions, a fact that Shiller's Yale colleague, historian Timothy Snyder, recently documented in the blood-curdling book *Bloodlands.* It's not that Shiller minimizes the harm. He writes that 11 million people died in the famine of 1932–1933, which, if anything, is probably somewhat of an overestimate, and that the famine was due to collectivization. So what's the problem? Shiller minimizes the evil intent behind the harm. The deaths, he writes, "reflect government error." In other words, he sees the deaths as a policy mistake instead of intentional malevolence. In fact, what happened was that Stalin forcibly took grain from millions of Ukrainian farmers, knowing full well that the result would be starvation. Snyder highlights a Soviet government poster that read, "We will destroy the kulaks [Ukrainian farmers] as a class." The word "error" doesn't quite describe what happened.

Fortunately, that is the worst of Shiller's minimizations of government evil. Some of his other treatments in the same vein, though, require comment. "Labor unions," he writes, "have in the past been the most likely lobbyists for lower-income people." That is not at all an accurate statement about labor unions, as President Jimmy Carter's labor secretary, Ray Marshall, could have told him. Labor unions derived most of their power from monopoly privileges granted to them by the federal government. In the early 20th century, they used that power systematically to exclude black people, most of whom were poor, from good jobs. Marshall, a labor economist, spent much of his career documenting the racist policies of government-privileged labor unions. Unions didn't just prevent black people from holding jobs; they sometimes assaulted, and occasionally murdered, black workers who tried to compete with them, a fact that Marshall documents in his 1967 book *The Negro Worker.* The disagreements between early 20th-century black leaders W.E.B. DuBois and Booker T. Washington were legendary, but one thing they agreed on was that unions were, in DuBois's words, "the greatest enemy of the black working man."

Shiller's too-rosy view of government most likely derives from his view that government is there mainly to help us. I'm guessing that it's for that reason that he does not criticize the Dodd-Frank law that imposes heavy, largely yet-to-be-determined regulations on the financial industries. Of course, it's hard to criticize regulations that haven't been formulated. Yet, in the few cases in which he mentions Dodd-Frank, he does so favorably, always seeming to trust regulators' intentions. His one criticism—a good one—is the Hayekian one that regulators are not likely to have the information they need to take action against bubbles. But the regulators' intentions? According to Shiller, they're pure. He even states that regulators must be given "the respect and appreciation that they deserve." And, in context, he clearly means that they deserve a lot of respect and appreciation.

It's not that Shiller is completely unaware of government officials' incentives. In a discussion of philanthropy, he points out that one advantage of philanthropy is that it allows organizations like the Bill and Melinda Gates Foundation to give grants to find a cure for river blindness, a disease suffered by people in extremely poor regions of Africa and Asia. The support of rich countries' governments for such causes is weak, he notes, because they gain little political capital by helping people in poor countries. In other words, governments don't have a strong incentive to help people in other countries. If he had taken this reasoning further, Shiller would have realized that even our own government has little or no incentive to look out for the politically unorganized.

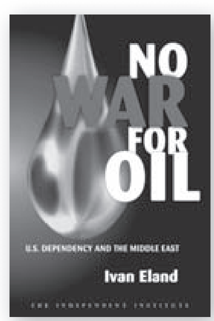
Virtually every book on government policy written by good economists who ignore the perverse incentives of government officials would be much better if their authors took those incentives into account. *Finance and the Good Society* is one case in point. R

Politics and Oil

REVIEWED BY RICHARD L. GORDON

No War for Oil: U.S. Dependency and the Middle East
By Ivan Eland
215 pages; Independent Institute, 2011

In his new book *No War for Oil*, Ivan Eland of the Independent Institute provides a valuable survey of the geopolitical nonsense surrounding oil. He divides the book into five parts: The first is an introduction. The next two substantial sections deal respectively with the history of oil and discussing 11 "myths" about oil. The fourth part sums up the case against military action on oil, and the final part presents conclusions.



Eland provides a short treatment of the issues with a stress on the politics. This produces a good guide for the casual observers but does not pretend to be an introduction to the massive literature that oil developments have generated. Since so many subjects are covered, each is only sketched. Even so, the reader will grasp the massive folly that has governed oil policy through 2012.

History | In 82 pages, the book treats the history of oil from the rise of the industry to the situation in 2011. The coverage is necessarily selective, but the treatment gets fuller with more recent history. Thus, roughly equal space is devoted to developments up to the 1973 price spike, events from the spike through the 1980s, and events from the first Gulf War to today. A survey of conditions in 2011 concludes the section.

The basic argument that emerges is that politicians in the United States and elsewhere incorrectly believe that political influence over oil-producing countries is critical to maintaining oil supplies. This belief is demonstrated by noting the many interventions in oil-producing countries and in other aspects of oil. It is clearly true that these interventions arose and that the belief prevails among politicians that political action in oil is essential. Eland nicely points out the inconsistencies in those rationales. He observes the transformation of views from U.S. belief that imports should be encouraged to the stress since 1973 on energy independence. He notes that the rise of imports quickly led to import-restriction policies. He also contrasts then–secretary of state Henry Kissinger's effort to promote U.S. imports of Soviet crude oil to the Reagan administration's efforts to discourage Western European energy trade with the Soviet Union.

Among the most interesting material

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is Eland's treatment of the pre–World War II embargo on oil trade with Japan that is often considered the cause of the attack on Pearl Harbor. He believes that Japan could have evaded the embargo, avoiding what would prove to be a costly confrontation with the United States. He throws in the observation that wartime Japan was so strangled by blockades that American use of the atomic bomb was unnecessary.

Overall, Eland is more certain than I that the links between policymakers' belief in the importance of secure oil supplies and various military actions were always clear and direct. In particular, his denunciation of the ill-advised second Iraq war is longer than necessary. He is too sure oil protection was the war's true motivation. An alternative possibility is that the Bush administration became too devoted to using U.S. power against many perceived threats.

Myths | Eland's selection of oil myths to explode is nearly perfect, and his exposition generally suffices. My sole substantial complaint is about the at-best superficial treatment of the pressures to eliminate fossil-fuel use in order to reduce global warming. Some supporters of global-warming controls such as John Holdren blithely ignore rampant current warnings of peak oil and assert that the need to eliminate fossil fuel consumption makes obsolete concerns over oil depletion.

Eland's first myth is awkwardly stated as "no viable market exists for oil." His explanation of the problem is vastly preferable to that myth. He simply argues that the imperfections of the market do not justify ignoring market prices and engaging in the mindless interventions excused by reference to market imperfections, real and imaginary. He actually concentrates on refuting the central folly that it is dangerous to rely on OPEC oil.

The next myth refuted is that private oil companies are a major part of the price-rigging process. Eland then debunks the notion of peak oil. Next he attacks first the concept that oil is strategic and then that the U.S. strategic oil reserve helps stabilize the market. He turns to why energy independence is a costly response to a nonexistent problem. A terse dismissal of macroeconomic impacts follows. Eland next observes that the United States resists encouraging the lowest possible oil price. Then the political and economic power of oil ownership is denied. The final myths are that the Saud family must be protected and that European trade with Russia is undesirable. The former may neglect the growing tendency to use the autocracy of the Saudis as an excuse to reduce oil imports.

The final part of the book starts with a largely solid discussion of the basic case against political and military intervention. This is followed by listing and demolishing a familiar litany of rationalizations for intervention. The book concludes with a good summary of why reliance on the market is preferable.

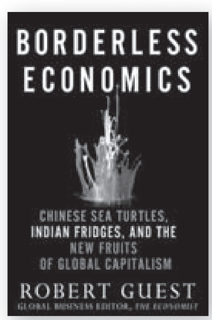
Conclusion | The book is very much a political treatment of oil. As such, the economics of oil are much less well developed than desirable. Eland relies very heavily on books by generalists, of which Daniel Yergin's *The Prize* unfortunately is the best. The citations to the supporting economic literature are fragmented. Even so, those interested in a good overview and specialists wanting another view of the policy debate over oil will find this book valuable. R

Tear Down These Walls

REVIEWED BY DAVID R. HENDERSON

Borderless Economics: Chinese Sea Turtles, Indian Fridges and the New Fruits of Global Capitalism
By Robert Guest
250 pages; Palgrave Macmillan, 2011

Bryan Caplan, my fellow Econlog blogger and an economics professor at George Mason University, is one of the most outspoken, passionate, and articulate advocates of completely open immigration. I'm an immigrant myself (coming from Canada, eh?) and am one of the most pro-immigration people I know. Yet I worry more than Bryan about some of the implications of completely open immigration. Some of Bryan's writings on the issue have shifted me more in his direction, and now Robert Guest's new book *Borderless Economics* has shifted me further.



Guest, who is the business editor of *The Economist*, has written a marvelous book that fills in a lot of the empirical gaps in the case for more-open immigration. It is brimming with insights and important facts about the movement of people across borders. Guest has covered these issues for a number of years and it shows in the book's thoughtful content and extensive footnotes. He makes a heavily documented case for, if not totally open borders, borders that are much more open to immigration than they are now. Along the way, he also makes the case that the most wealth-destroying regulations in the world are those that prevent or deter immigration. Guest does all of this in a colorful way, as the subtitle suggests.

Helping back home | His basic argument is that migration of people across borders creates, in the United States particularly, not so much a melting pot as a "rich stew." (This is not a quote from the book; it's actually from Cato Institute senior fellow Tom Palmer, but I think Guest would like it.) Immigrants to the United States also benefit the countries they left—in two ways. The first way is that immigrants collaborate with people in their home countries, giving them access to technology that the immigrants have discovered in their new, wealthier country. Guest's best examples are of achievements of emigrant Indians—in particular, the "Indian fridge" mentioned in the book's subtitle.

A Mumbai-based manufacturing firm, he writes, "has developed a $69 refrigerator—the world's cheapest." The breakthrough occurred because three emigrant Indian engineers, visiting their home country, wangled an invitation to see an official of the Indian firm so that they could show him their new technology.

The second way immigrants help their kinsmen is by sending them money. Guest notes that remittances to people in poor countries surged from $31 billion in 1990 to $316 billion in 2009. He quotes the finding of the World Bank's Dilip Ratha that remittances are now larger than foreign direct investment and more than twice as large as foreign aid. Because almost all foreign aid is from one government to another, most of it is wasted. Remittances, on the other hand, are typically sent directly to relatives. Guest writes that it is common for an engineer whose annual income is $5,000 in a poor country to move to a rich country, make $30,000 a year, and send $5,000 of it back home. Guest writes, "His homeland is substantially better off, since when he lived there, he spent much of that $5,000 on himself. Now all of it goes to others."

Getting rid of all immigration restrictions worldwide would approximately double world GDP. This one reform would dwarf any other measure to help people in poor countries.

When I've told similar remittance stories to non-economists, they often worry that the money goes "over there" and doesn't help people here. I'm assuming that Guest thought the objection so transparently weak that he didn't need to counter it. Still, I wish he had; countering it is easy. Much of that remittance money will flow back to its country of origin as investment or payment for exports. But what of the money that doesn't return? That's even better. We Americans got valuable services—in the form of the immigrants' labor—in return for that money. If the money doesn't return, the effective money supply may fall, but it costs the federal government less than 30 cents to replace a $100 bill with a new $100 bill and even less to print smaller bills. Getting valuable goods in return for paper money that sells for dollars on the penny is a fantastic deal for Americans. Jay Leno, in a 1980s ad for Doritos, said: "Crunch all you want. We'll make more." Similarly, if people in other countries hold on to their paper U.S. bills, the Federal Reserve can make more.

Today's immigrants | When economists see items selling for $5,000 in one market and $30,000 in another, as in the above example of engineers' services, they expect arbitrage. In this case, the arbitrage takes the form of migration. The huge differential in wage rates is both a strong incentive for the engineer to move to the market where his services are valued more and an indicator of just how inefficient restrictions on immigration are. Guest cites a finding by Harvard University economist Lant Pritchett that if rich countries allowed just a 3 percent increase in their labor force through immigration, the world's "have-nots" would benefit by $300 billion a year and the residents of the rich countries by $51 billion a year. In a later study that Guest doesn't cite, economist Michael Clemens finds that getting rid of all immigration restrictions worldwide would approximately double world GDP.

This one reform would dwarf any other measure economists have considered to help people in poor countries. Consider microcredit, the lending of small amounts to small businesses. Guest notes that Mohammed Yunus, whose Grameen Bank pioneered microcredit in Bangladesh, won the 2006 Nobel Peace Prize for his efforts. How effective is microcredit? Guest quotes Pritchett's observation that the average gain from a lifetime of microcredit in Bangladesh is about the same as the gain from *eight weeks* of working in the United States. Pritchett, after calculating the total benefit that Grameen Bank confers on its clients, asks, "If I get 3,000 Bangladeshi workers into the U.S., do I get the Nobel Peace Prize?"

Guest has grasped the fact that because of the low cost of transportation and communication, today's immigrants behave differently from those of a century ago. Virtually all immigrants now keep in touch with their home country, and many return. The fact that many do return is what gives Guest hope for China's government to become less oppressive. More than half a million Chinese people, he writes, have returned from foreign countries—most in the last decade. These people, whom he dubs "sea turtles," are largely people who have studied abroad, and many of them end up in positions of power in the Chinese government. One statistic: The number of sea turtles on the Communist Party's Central Committee had risen from 6 percent in 2002 to 10.7 percent by 2007 and is expected to hit between 15 and 17 percent this year. Most of them studied in the United States, Britain, Germany, and Japan. Guest wryly notes, "Somehow, they figured they wouldn't learn as much in North Korea or Cuba."

Guest notes another hopeful sign for China: We in the West often hear how strictly the Chinese government has censored the internet. But Guest points out that creative Chinese journalists have found ways around this censorship. Deng Fei, for example, a Chinese journalist who investigates government corruption, "micro-blogs to 2.45 million readers—more than the paid circulation of any American newspaper."

Guest also notes the huge possibilities for "medical tourism"—that is, people from rich countries traveling to poor countries to get cheap but high-quality medical care. Migration of talent has facilitated this by allowing entrepreneurs in India to hire Indian doctors who have worked or studied abroad. Guest highlights Fortis, a private health care company in India that copies the best practices of U.S. doctors and then frees Indian doctors from bureaucratic hassles so they can focus on specializing in particular health care services. A surgeon at a Fortis hospital in India performs 1,200 surgeries a year, about four times the number of a U.S. doctor. Fortis, he notes, "is building a gleaming new hospital close to Delhi's airport." Guest ends the discussion by noting that Asians are eager to learn from the West and that "it's time for Westerners to return the compliment."

Many Americans worry that the United States will lose its dominant place as an economic power. Not Robert Guest. He celebrates the wealth that the average American has compared to even the average German or Frenchman. Moreover, he notes, Americans welcome foreigners more than pretty much any other country. Virtually anyone can find a niche, "whether she is a socially conservative Arab or an ostentatiously gay Nicaraguan." One of our greatest strengths is religious tolerance. Former Dutch citizen Hirsi Ali, for instance, who took great risks in the Netherlands to make a film critical of Islam, moved to America to be safer from Muslim threats. Ali reports that when American Christians find out she is an atheist, "They don't try to kill me. They say they'll pray for me." Although many Americans now worry that the United States will become like France, Guest doesn't, pointing out that the United States doesn't have ghettos "full of permanently jobless and alienated young immigrants." Immigrants to America are too busy making a living.

Terrorism | But can Americans adopt such an accommodating immigration policy in this age of terrorism? Guest acknowledges this concern, especially in regard to Islamic terrorism, and I have little to dispute in his account. It was disappointing, though, to see that he gave little attention to the legitimate grievances that Muslims have against the United States: the U.S. government has a long history of intervention in their part of the world, whether it be the Central Intelligence Agency's contribution in 1953 to the overthrow of Mohammed Mossadegh, the democratically elected president of Iran, or the 1990s U.S.-led sanctions on Iraq that killed thousands of innocent people. Guest does mention one of those grievances, but he writes about it in a way that casts doubt on its legitimacy: "They see that the United States (in their view) favors Israel over the Palestinians." In their view? Is there any doubt about which side the U.S. government favors?

To his credit, Guest does note one other cause of Muslims' anger: "Obama's copious use of drone-fired missiles to assassinate suspected Taliban leaders in Pakistan, a tactic that kills hundreds of innocents." He also criticizes the TV series *24* for popularizing the idea of torturing alleged terrorists. The most cryptic comment in the whole book, though, is his statement that *24* "popularizes the notion that American presidents just pick up the phone and have people murdered." Is it a bad idea to popularize "notions" that are true? President Obama has claimed, and exercised, the power to kill Americans abroad whom he suspects of being terrorists. On Obama's orders, suspected terrorist Anwar al-Awlaki was killed in a drone attack last fall, and his 16-year-old son Abdul-Rahman was killed in another drone attack a couple of weeks later. The father may well have deserved to die (although I'm less sure of the son's desert), but it is difficult to square a presidential order that they be killed with the rights that they supposedly hold as U.S. citizens. I admit that I don't know whether Obama gave the order over the phone.

Oversights | I have three other criticisms of Guest's book. One is that, in a book that highlights the role of the overseas Chinese in world economic growth, Guest makes no mention of earlier work on this issue by Hoover Institution economist Thomas Sowell. This is a disappointing omission.

My second criticism is Guest's inclusion of this sentence: "Even a totalitarian state like the Soviet Union could not prevent its people from emigrating." That statement would surprise the millions of Soviet citizens who wanted, but found it impossible, to get out.

My third criticism is that in highlighting the poverty-fighting work of Massachusetts Institute of Technology economist Esther Duflo, Guest loses the perspective that he earlier had in comparing the tiny gains from microcredit with the large gains from immigration. Duflo's contributions, while technically sweet, are all about "controlled trials" in poor countries. Even if all her work led to big improvements, people in those countries would still be miserable compared to their lot if they could immigrate to a rich country.

Still, these are relatively small criticisms of a great book that, I hope, will help bring down regulations that are making almost everyone poorer. R

A Life in Science

REVIEWED BY RICHARD E. BERG

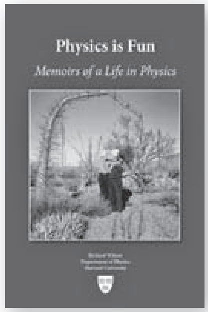
Physics Is Fun: Memoirs of a Life in Physics
By Richard Wilson
602 pages; Richard Wilson, 2011

Nearly six decades ago, Richard Wilson arrived at Harvard, a British-born and Oxford-trained physicist who had made brief stops at Stanford and Rochester. Today he is the university's Mallinckrodt Professor of Physics (emeritus), with a *curriculum vitae* of over 900 published articles and a list of honors and awards that includes a medal as "Chernobyl Liquidator" from the Soviet Union. (Full disclosure: Wilson is also a member of *Regulation's* editorial advisory board.)

He recounts this remarkable life in his latest book, *Physics Is Fun.* It is a relatively long book, but that is appropriate to cover the enormous breadth and depth of his experiences. The book includes three primary sections: a personal autobiography of 47 chapters (about 320 pages), a scientific autobiography of 32 chapters (about 220 pages), and an appendix with a publi-

Richard E. Berg (retired) was Professor of the Practice in the Department of Physics at the University of Maryland, College Park and director of the university's Physics Lecture-Demonstration Facility.

cation list of 917 items (about 45 pages). Additional appendices provide a list of descendents and his family tree, dating back to about 1800.



A short introduction provides a glimpse into his life, including a very interesting summary of 10 decisions that shaped his destiny, as well as some of the best career advice ever written. The chapters are short, each discussing one of the events in Wilson's life or career.

Growing up | The first section is primarily a recounting of Wilson's various escapades while growing up in London and is particularly intended for his children and grandchildren. It provides an excellent way for them—and us—to become more acquainted with their patriarch.

In the early chapters, he describes—often in great detail—many significant adventures of his childhood. While reading the book, I was continually amazed by how much he could recall. I vaguely remember a few details of my childhood in the Chicago suburb of Villa Park, Illinois, during the 1940s and early 1950s: the chickens raised by our neighbor, Mrs. Miller, during the war; being beaten up by the kindergarten class bully who was also the daughter of the teacher; the trips to Chicago to the museums along the lake shore, and to see Cubs and White Sox baseball games; and my interest in music and ham radio. We played games in the street, spent some free time wandering around in the ragweed field a block from home, and walked to school, coming home to eat lunch. But my memories are nothing remotely like those of Wilson's. I was bowled over by how compelling this part of the book is; each story has some interesting aspect that provides a fascinating insight into his incredible mind as it grows and matures. In many ways it reads like *Tom Sawyer*. Even his childhood recollection of political events shows recognition of their significance well beyond what I recall during my childhood.

Wilson describes bicycle trips he would take through southern England: Kingston, Hounslow, Claygate, Leatherhead, and environs. I tried to follow him on those trips using Google Maps, but it was hard to follow details of his cycling routes, probably because the area has been very heavily developed since the 1940s. I can well imagine a large herd of Wilson grandchildren and great grandchildren one day cycling throughout southern England, each with a copy of *Physics Is Fun* in one hand and a portable GPS device in the other, diligently seeking the landmarks that he so carefully documents.

One of the most interesting threads in the childhood section of the book involves how the young Wilson was given increased responsibility and freedom as he demonstrated that he was mature enough to handle each situation, particularly on his bicycle trips. His parents provided an exceptionally nurturing environment that encouraged both curiosity and responsibility. Every parent of young children could benefit from reading of how those experiences helped to shape his development.

Neither Wilson's intelligence nor his education shielded him from several personal and professional disappointments. How he rose above those events is one of the recurring themes of the book.

Wilson belonged to the educated class in England, and he surely made the most of it, having a choice of at least a couple of excellent colleges. However, neither his intelligence nor his education shielded him from several personal and professional disappointments. How he rose above those events is one of the recurring themes in his book. One particularly sad theme involves the early deaths of several family members, including his mother. I was touched by the way that he described his mother and their relationship, as it reminded me very much of my mother. My mother was very good at math and encouraged us to practice arithmetic during long car trips, as did Wilson's mother. (Alas, my wife didn't share an appreciation of such practice, as it reduced the "unscheduled" time for my two sons.) I've often wondered how much this type of influence from my mother led to my developing an interest in mathematics and physics.

Competition and politics | In the book's second section, Wilson provides a thorough discussion of scientific and political issues that drove his professional life. His discussion of the issues involved in many contemporary science policy areas is very illuminating and could be effectively used as reference materials for university class study.

One of the more interesting and important stories involves his work on the Cambridge Electron Accelerator (CEA). Regularly throughout his work on the accelerator, he was in direct competition for federal funding with his brother-in-law, Wolfgang Panofsky, who worked at the Stanford Linear Accelerator Center (SLAC). Wilson was often conflicted by this, especially when political dealings in the operation of CEA and the relationship between CEA and SLAC became very intense and even personal.

The cut-throat competition and politicization of the relationships between various research groups created for Wilson, and continue to create today, a situation that is demonstrably not in the best interest of either science or the scientists involved. In recent years, problems involving political and personal issues have become increasingly ugly. A recent *New York Times* article ("A Sharp Rise in Retractions Prompts Calls for Reform," by Carl Zimmer, April 16, 2012) discussed the enormous increase in retracted articles in major journals such as *Nature* and described some problems resulting from a significant increase in the average time for a young scientist to obtain a tenure track position in major research universities. As Wilson points out, collaboration between groups seems by far the better way to achieve the best results from federal research money, both for the government and the scientists involved. It seems dubious, however, that this type of scientific utopia will ever occur in the current climate.

Ultimately, the explosion of the hydrogen bubble chamber at CEA in 1965 led to defunding of the laboratory. As a result, Wilson expanded his interests to risk analysis and governmental science policy, including studies of nuclear reactor safety and work on various chemical and biological health dangers. I would say that this later work was significantly more important than the bubble chamber, so perhaps the accident was a blessing in disguise.

The destruction of the CEA lab was a major loss to Wilson, both professionally and personally, but a particularly interesting one to me because the explosion was a result of largely avoidable problems, which he very thoughtfully describes. One problem that seems to arise regularly is that administrators for major physics research projects, or even departmental administrators, are often chosen based on their reputation for doing physics. But administering and conducting research are two very different skills, and my observation—consistent with Wilson's discussion—is that they seldom overlap. Physicists often tend to be a bit theoretical, giving short shrift to even important technical details in experimental equipment—something that I witnessed regularly during my 38 years as director of the University of Maryland Lecture-Demonstration Facility.

I can relate well to Wilson's sad commentary on the technical reasons for the explosion and fire at the CEA bubble chamber from my experience with the University of Maryland cyclotron and external beam transport system. I got my first job at the university by carrying out an analysis of model magnet design studies for the cyclotron under the general direction of my thesis supervisor, Henry Blosser of Michigan State University. I was asked to do this project because the accelerator design group at Maryland had been unable to get their computer program working correctly. The program originated at Oak Ridge National Laboratory, was taken to Michigan State, and then transferred to Maryland. As a young physicist designing the analyzing magnet system for the cyclotron, I had a major disagreement with the two greatest recognized experts in the field when both claimed that my estimate of analyzed beam current was 10 times what they had calculated. (Interestingly, one of those physicists was Karl Brown of Los Alamos Scientific Laboratory, with whom Wilson had once worked.) It turned out that a cross term in the equations had been derived incorrectly, resulting in blow-up of the beam, and then propagated into the forms of the program that they were using. And their calculations had been in use for over 20 years!

Like CEA, one of the primary reasons for closure of the Maryland cyclotron was also an avoidable mishap: a fire caused by a major power supply that had been designed and built fail-unsafe. The primary contractor for construction of the cyclotron was the French firm CSF, also mentioned by Wilson; their U.S. affiliate was the Raytheon Corporation, which at the time had never built such a high-power supply.

Wilson provides a very interesting discussion of the slow death of the Superconducting Super Collider in the early 1990s. Clearly the entire thing was very greatly politicized. As Wilson suggested, it seemed to me at the time that that this noble effort was not helped by the arrogance of the physicists who were leading the project.

Health and the environment | Perhaps the most important product of Wilson's second career is his study of the effect of small doses of potentially carcinogenic materials. He has become one of the world experts in the linear no-threshold theory of radiation, and has written extensively on the biological effects of low levels of ionizing radiation. This is a critical issue, both in terms of health and in how this type of scientific information is used by governmental agencies like the Environmental Protection Agency in regulating exposure limits both in the work environment and at home. As Wilson points out, the misuse of statistics and thoughtless abuse of scientific information can result in enormous costs to society. One particularly sad example that I would point out is closure of the Yucca Mountain nuclear waste repository due to a combination of ignorance and politics.

An important, seemingly unresolved issue in both science and in setting EPA limits on exposure to carcinogens involves whether a linear no-threshold theory or a threshold theory best describes the effect of low levels of ionizing radiation. Wilson recognizes the problem by including a recent bibliography of publications on low levels of ionizing radiation that lists several articles by various authors with views different from his, including Bernard Cohen of the University of Pittsburgh. It would be most informative to see a debate on this issue between Wilson and Cohen, perhaps on YouTube. Both are scientists of the highest caliber and have a significant disagreement on an issue that is of great importance relating to critical government policy. This could be invaluable for the EPA, which seems at times to set its exposure limits at unnecessarily and impractically low levels.

As in several other issues discussed by Wilson, (anthropogenic) global warming has become incredibly politicized. Dominating the entire discussion are a number of "green" political issues. Funding seems to often drive the entire discussion, even among scientists, down to whether various positions on the issue should even be given representation in professional research groups. I have never witnessed such an *ad hominem* attack in a "scientific" context as that aimed by members of the meteorology department at a highly respected NASA scientist who expressed skepticism about the extent of the human contribution to global warming in a University of Maryland physics colloquium. I would like to hear more about how Wilson views the problem in 2012. He does suggest some ways to reduce greenhouse gases using market mechanisms, a far cry from those activists who would take far more draconian action to solve the problem.

At several times in the discussion of his professional life, Wilson was distressed at the lack of objectivity by funding agencies regarding distribution of funds. He pointed out the extreme difficulty of breaking into the group of those who obtain government grants, even referring to an elite "radiation club" whose "members" get the grants in that area. One result has been a collection of misconceptions and misunderstandings regarding such important issues as nuclear radiation and chemical exposure, and specifically with use of statistics. Another is that both the quality and the diversity of government-sponsored research are less than optimal. It is not clear that more appropriate information would solve these problems, but it most certainly would help.

This book is not only an autobiography, but also documentation of lots of informative scientific discussion. Professor Wilson's ideas on some issues contained information new to me, and his discussion of asbestos helped me to understand how litigation in this area has become so fraudulent. He has properly suggested that this work may be his most important lifetime contribution to science.

Conclusion | Perhaps the most exciting part of Wilson's tales of world travel involve his trips to the old Soviet Union during the cold war. He had more guts than I could have ever garnered in working around the various obstructing laws and procedures. Only through a combination of bureaucratic inertia and incompetence—perhaps with a touch of sympathy—did he end up avoiding jail time for some of those escapades. One of his most depressing experiences was trying to help Iraqis who had assisted the U.S. war effort to come to the United States to avoid retribution, including death, in Iraq—but due largely to U.S. bureaucratic inertia, he was unable to do so.

As in his professional life, Wilson's personal life is built on the same principles of objective analysis and collaboration. He demonstrates the highest love, affection, and support for Andrée, his wife of over 60 years, and has very thoughtfully described how they worked together to make important decisions that affected their family and his career. Without an enormously supportive family and a fully collaborative relationship, it would have been impossible for him to have such a full career while they were successfully raising six children. I cannot imagine a more fascinating and educational childhood than that which they provided to their children.

This book is very important because it provides insight into real science and real life by a remarkable physicist who has confronted issues in a truly objective manner, but while clearly retaining subjectivism and collaboration in working with his colleagues. As I read the book, my respect and admiration for Professor Wilson grew exponentially. Every young person should read this book for guidance as to how to respond to issues that arise in his or her own life. Parents should read this book as a guide into how to encourage their children to become independent and responsible persons as they seek their way in an often hostile and very competitive environment.

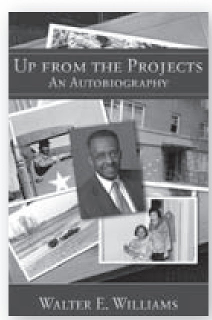
Wilson is now in his 80s, but his scientific work is certainly not complete. While preparing this review, I noticed his latest paper, the *American Journal of Physics* "Resource Letter EIRLD-2: Effects of Ionizing Radiation at Low Doses." (He wrote the original "Resource Letter EIRLD-1" on this topic in 1999.) Clearly, for him, physics is still great fun.

Up From Poverty

REVIEWED BY DAVID R. HENDERSON

Up from the Projects: An Autobiography
By Walter Williams
150 pages; Hoover Institution Press, 2010

Why, in a magazine titled *Regulation*, should you read a review of an economist's autobiography? In addition to the fact that it is a short, compelling read, Walter Williams' autobiography speaks more eloquently than standard economic studies on the virtues of relatively little regulation in one area: the labor market.



When economists want to discuss the damage done by the minimum wage, for example, we tend to cite studies that show that an *x* percent increase in the minimum wage led to a *y* percent drop in the number of jobs held by youths. But another way to understand the damage is to view the experience of one particular person who was not bound by the minimum wage and to see the benefits he reaped. Williams' book tells of how he was able to jump from job to job in the early years of the minimum wage when it was less constraining than it is now. In each job, he learned something that made him more productive and eventually led him to become a wealthy economist.

Child laborer | Williams tells his story well. His account begins in 1949, when he was only 13 and started what he calls his "first real job": delivering hats and doing various odd jobs for a Philadelphia millinery factory called U-Needa-Hat. His hourly wage, he recalls, was between 50 and 75 cents an hour. In that year, the minimum wage was 40 cents an hour and, on January 25, 1950—by which time Williams had presumably gained some skills—it rose to 75 cents an hour. He recalls fondly that when factory owner Jack Friedman or his wife "sent me to the Jewish delicatessen down the street to buy sandwiches, knishes, and pickles," they would always buy some for him. Imagine what would have happened had the minimum wage risen to $1 an hour rather than 75 cents. It's very likely that his employer would not have bought Williams that "free" food. An even worse outcome could have been that Williams, because of his relatively low productivity, would have lost his job.

Some days on the job, Williams would finish his work early. When he "was alone on the third floor," he would try the higher-skilled work of operating the electric sewing machines to sew wire onto the hat forms. That self-taught skill gave him his first big break. One day during the rush season, two seamstresses failed to show up for work and the shop fell behind. Williams volunteered to sew wire onto the forms. The owner and his son let him try and were satisfied with his work. He earned more for those hours than for his usual job. From then on, he worked on the sewing machines at night after the seamstresses went home and on Sundays.

But even though regulation of the labor market was lighter then than now, there were, besides the minimum wage law, other labor market regulations. In particular, there was a law against child labor. One of Friedman's employees, upset about the competition from this youngster, complained to the department of labor and Friedman reluctantly fired Williams.

The child labor laws didn't stop Williams, though. He lists a number of jobs he had while still very young, most of which would be hard to enforce child labor laws against: caddying at a golf club, picking blueberries in New Jersey, peddling fruits and vegetables in North Philadelphia, shoveling snow from residential and business sidewalks, and collecting and returning bottles to claim the deposit. (While reading this list, I felt nostalgic. If you substitute "crab apples in Manitoba" for "blueberries in New Jersey," I did four of the five jobs when I was about the same age.)

Finance and economics | These jobs surely built Williams' productivity and work ethic. In high school, he worked as a busboy and dishwasher at restaurants, delivered mail over the Christmas holidays, and packed orders for shipment at the Sears, Roebuck mail-order department and at a small stock-brokerage firm. It was at this last job that Williams first heard about investing in stock and decided to buy shares in Pepsi. That, in turn, got him reading the financial pages regularly. Who knows how much effect that had on his decision to become an economist?

Williams, aware that his experience in these jobs helped him in later life, writes:

> A supreme tragedy, in light of the great civil rights gains made by black people, is that the young kids who live in North Philadelphia today don't have the work opportunities that I had. Early work experiences not only provide the pride and self-confidence that comes from financial semi-independence, but also teach youngsters attitudes and habits that will make them more valuable and successful workers in the future. That is especially important for young people who attend rotten schools and live in fatherless homes. If they're going to learn anything that will make them valuable workers, it will have to come through on-the-job training.

Possibly, it was these experiences that led Williams, as a doctoral student in economics at the University of California, Los Angeles, to pay particular attention to the harm done by the minimum wage law. Williams had previously believed that "higher minimum wages were the way to help poor people, particularly poor black people." But his mentor, Armen Alchian (who also taught me economics), recommended that he read studies by University of Chicago economist Yale Brozen and others about how minimum wage laws dried up job opportunities for unskilled workers. Later, in the 1970s, while at the Hoover Institution, Williams began a study on unemployment of youths and minorities, a study commissioned by the U.S. Congress Joint Economic Committee (JEC). He highlighted the role of the minimum wage and the Davis-Bacon Act.

At first, the JEC sat on his report, but after he complained to Senators Samuel Hayakawa (R, Calif.) and Orrin Hatch (R, Utah), the JEC published it. This study, in fact, helped create Williams' reputation as a free-market critic of government regulation.

There is much more in the book besides this story of minimum wages. Williams details his outspoken opposition, while a draftee in the U.S. Army, to racial segregation. He tells of a vicious attack on Thomas Sowell by *Washington Post* columnist Carl Rowan. The interesting thing about this attack as it relates to Williams is that George Jordan of the *Cleveland Plain Dealer* plagiarized the Rowan attack to go after Williams.

There are many other interesting and enlightening stories, many told with great humor. Whether you know Williams or not, you can appreciate his wit. As one who knows, admires, and enjoys Williams, I can say, "Thank goodness the minimum wage wasn't higher." R

IN REVIEW | WORKING PAPERS

Below is a summary of some recent papers that may be of interest to *Regulation*'s readers.

BY PETER VAN DOREN

Banking Regulation

- "The Gramm-Leach-Bliley Act of 1999: A Bridge Too Far? Or Not Far Enough?" by Lawrence J. White. May 2011. SSRN #1836668.
- "Robust Capital Regulation," by Viral Acharya, Hamid Mehran, Til Schuermann, and Anjan Thakor. April 2011. SSRN #1822333.

Many commentators, including former Federal Reserve Board chairman Paul Volcker, have blamed the recent financial crisis and subsequent recession on the 1999 Gramm-Leach-Bliley Act (GLB), which eliminated the legal barriers between investment (securities) and commercial (traditional deposits and loans) banking and insurance. In a recent paper, New York University economist Lawrence White argues that this blame is misplaced for two reasons.

First, the Depression-era theory that investment and commercial banking should be separated has long been discredited by academic economists. The theory alleges that the stock market crash of 1929 was the result of investment banks selling poor-quality stocks to an uninformed public in order to help the stock-issuing companies repay loans from the investment banks' affiliated

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commercial banks. Randall Kroszner and Raghuram Rajan ("Is the Glass-Steagall Act Justified," *American Economic Review*, Vol. 84, No. 4) debunked this theory nearly two decades ago when they showed that securities underwritten by banks with affiliates were no more likely to default than similar securities issued by independent investment banks during 1924–1940.

Second, GLB simply granted congressional recognition of regulatory decisions in the 1970s and 1980s that blurred the distinctions between investment and commercial banking. Those decisions had been incorporated into the marketplace long before 1999, as evidenced by the creation of money market funds, the securitization of mortgages, and the direct access of corporations to loans through the commercial paper market.

For White, the financial crisis was the result of high-leveraged lending to the housing sector, and those loans ultimately went sour with the 2006–2007 popping of the real estate bubble. What's relevant to the GLB discussion is that those losses did not occur because commercial banks underwrote corporate securities, or traded for their own account, or operated hedge funds. The losses occurred because both commercial and investment banks invested in mortgage-related bonds, which was legal (and encouraged) long before GLB. Hence, White concludes, the reimposition of Glass-Steagall Act rules separating investment banking from commercial banking would "not even be a case of locking the barn door after the horses have run out. Instead, it would be a case of closing a set of side doors that the horses hardly notice."

This is not to say that GLB doesn't deserve some criticism relevant to the financial crisis. GLB increased the barriers between commerce and banking, which hurt low-income consumers. In the late 1990s, Wal-Mart wanted to enter retail banking, both in an effort to lower its credit card costs and because it saw a profit opportunity. Existing banks, existing retailers, labor unions, and other opponents of Wal-Mart succeeded in inserting language into GLB that prevented any acquisition of a unitary thrift holding company by a commercial or industrial company, thereby blocking Wal-Mart's plans. Low-income consumers would be better served by aggressive entry by companies like Wal-Mart with a proven track record of serving low-income customers—indeed, they'd benefit far more from this than programs like the Community Reinvestment Act that "pressure" existing banks to lend to the poor.

Another recent paper, by Viral Acharya et al., examines the role that high-leveraged lending played in the financial crisis. It is now consensus that high-leverage financing—that is, extensive borrowing by banks, which then used the borrowed money to finance housing and other investments—fueled the housing bubble. Many policy analysts reason that decreased leverage—that is, increased use by banks of their shareholders' money to finance such investing, instead of borrowing—would allow the banks to survive large asset losses and decrease the need for future government bailouts.

The authors of this paper worry that such a change could ultimately lead to more financial problems. Snakebit uninsured large depositors and debt-holders now have powerful incentive to monitor the investment behavior of financial institutions that want to borrow (or have already borrowed) their money; a switch to greater equity financing would dampen that vigilance.

Acharya et al. propose that financial firms be required to have a "mandatory equity buffer"—in effect, a firm "rainy day fund"—funded out of retained earnings. This would insure savings during good times and use of the savings during bad. The equity buffer would be transferred to the normal capital account of the financial institution automatically when prearranged capital levels are breached because of loan losses. If the bank becomes insolvent, the equity buffer would revert to the Federal Deposit Insurance Corporation so that uninsured debt-holders would not benefit directly from the extra equity and thus still have incentive to monitor the bank's loans.

The objection to increased capital requirements is that they would reduce the value of banks. Acharya et al. respond by invoking the insights from a paper by Anat Admati that I described in an earlier Workings Papers column (Winter 2010-2011). Equity is "expensive" only because banks are so highly leveraged and thus risky. More equity reduces risk and thus reduces the "cost" of the equity. The result is that more equity does not reduce the market value of banks.

Housing Markets

- "Did Local Lenders Forecast the Bust? Evidence from the Real Estate Market," by Kristle Romero Cortes. November 2011. SSRN #1967179.
- "Housing Price Variation and the Convenience Yield to Owning a Home," by Jason Thomas and Robert Savickas. January 2012. SSRN #1986464.
- "How High Gas Prices Triggered the Housing Crisis: Theory and Empirical Evidence," by Steven Sexton, JunJie Wu, and David Zilberman. February 2012. University of California Center for Energy and Environmental Economics WP-034.

In "Would a Stricter Fed Policy and Financial Regulation Have Averted the Financial Crisis?" (*Cato Policy Analysis* 648, October 2009), Jagadeesh Gokhale and I argued that the claims by analysts that they saw the housing bubble and its implications in real time are, for the most part, unsubstantiated by the papers and analyses those analysts issued during the boom. More likely, the claims are the product of "foresight" that comes from looking in the rearview mirror.

However, an interesting paper by Boston College doctoral candidate Kristle Cortes suggests that some analysts may have accurately foreseen the collapse. She argues that local lenders, defined as financial institutions having a branch location in the county in which a mortgage was granted, behaved as if they did see the bubble in real time and reduced their lending as a result.

From 2002 to 2006, a 1–standard deviation increase in housing prices in a ZIP code is associated with a 15 percent decrease in local lending (defined as the share of mortgages coming from lenders with a branch in the county in which a loan is made). In that time period, local lending declined most in areas that had the greatest subsequent decline in housing prices in 2006–2009. Local lending decline is also associated with a decline in the share of local loans held in portfolio. That is, local lenders sold off rather than retained more mortgages in those areas that later experienced the greatest 2006–2009 housing price decline. Local financial institutions behaved as if they perceived housing prices to be excessive and reduced their exposure.

While local banks may have seen the housing bubble for what it was, homebuyers did not. Jason Thomas and Robert Savickas try to discern why the buyers kept buying. One offered explanation is that buyers were tempted by loans they should have never received. Much of the popular discussion of the housing crisis has focused on so-called "subprime" loans to people with poor credit histories, but three-quarters of the post-bubble defaults experienced by Fannie Mae and Freddie Mac have been on higher-quality Alt-A and interest-only loans made to borrowers with high credit scores and reasonable loan-to-value ratios. Policy discussions on avoiding more of these defaults in the future have centered on the features of the lending products: the lack of income and other documentation in the case of Alt-A and the lack of principal reduction in the case of interest-only loans.

Thomas and Savickas point out that these loans were used only in areas of the country with high and/or rapidly increasing housing values. If the housing boom had not been a bubble with a subsequent bust, the defaults would not have occurred because the houses' value would have insured that creditors recouped their money. Hence, the authors say, a policy response should not focus on the characteristics of mortgage products, but on the rise and decline in house values.

Unlike other explanations of house value increases that emphasize supply constraints both natural and regulatory, the authors compare the rental and ownership price of housing services. Unlike house prices, rental costs did not soar during the housing boom. So why did large numbers of people opt to buy rather than rent comparable housing? For example, between 2001 and 2006, the real rental cost of equivalent housing in Miami declined and the relative cost of owning rather than renting doubled. Why did people keep buying?

The authors use the term "convenience yield" to describe the difference in the flow of services from owning rather than renting a particular home. Convenience yield consists of two components: a long-run component that captures the ability to design the residence the way you want, and a more transitory component: the ability to borrow against home equity at rates that are much lower than uncollateralized loans available to renters. At the bubble's peak in the mid 2000s, U.S. home equity borrowing was $200 billion per quarter, or 12 percent of U.S. consumption. The ability of homeowners to have higher wealth and consumption than renters reinforced the already prevalent American belief that owning a home is the surest path to wealth creation. This caused more households to buy homes, which increased home prices, borrowing-against-equity, and convenience yield. But once home prices stopped rising, endogenous convenience yields plummeted so that they now reflect only the much lower long-run usage benefits of homeownership. Existing renters no longer use exotic mortgages to become owners and recent buyers have unhappily discovered that they overpaid for ownership because equivalent housing services were available in the rental market at lower prices.

Another question from the housing crash is why the bubble popped when it did. In the above-referenced *Cato Policy Analysis,* Gokhale and I suggested that the 2006 gasoline price spike triggered the collapse. Steven Sexton, JunJie Wu, and David Zilberman present a much more rigorous argument for this idea.

In metropolitan areas where the job market was strong and housing demand was high in the mid-2000s, the fewest constraints on new construction—both regulatory and natural—were found at the areas' far edges and beyond (i.e., the exurbs). Thus, potential homebuyers often engaged in a complex calculus when buying: how much of their paycheck from their city job were they willing to devote to commuting from their affordable suburban or exurban home? The doubling of oil prices from January 2005 to January 2008 unexpectedly raised that cost, hurting homeowners and reducing the value of exurban homes. A 10 percent increase in gasoline prices resulted in a 10 percent decline in suburban relative to urban construction over four years.

In California, the largest median house price declines occurred in jurisdictions furthest from major cities. The 15 jurisdictions that experienced the least house price declines were richer and had gasoline expenditures that were 31 percent lower than those jurisdictions with the largest house price reductions. An analysis of Zillow Home Value Index data for 269 metropolitan areas in the United States concludes that the loss in home value from the 2006 peak to subsequent trough is positively correlated with distance from the central business district.

Wireless Communication

- "Like Deck Chairs on the Titanic: Why Spectrum Reallocation Won't Avert the Coming Data Crunch But Technology Might Keep the Wireless Industry Afloat," by Brian J. Love, David J. Love, and James V. Krogmeier. August 2011. SSRN #1914058.

Since 2008, global mobile data traffic has increased an average of 140 percent per year and is expected to grow 26-fold by 2015. AT&T alone had a 30-fold increase between the third quarter of 2009 and the third quarter of 2010. The reason for this explosion is that smartphones (24 times), tablet computers (122 times), and mobile broadband–equipped laptops (515 times) use much more bandwidth than a simple cell phone.

Economists often argue for markets in spectrum reallocation so that spectrum currently used for radio or television can be sold for more valuable mobile communication use (for example, see Jerry Ellig, "Costs and Consequences," Fall 2005). But even if the most optimistic reallocation occurs, mobile services bandwidth will increase only three-fold, while use has increased 2.5-fold *per year* over the last three years. A three-fold one-time increase will not do the job.

In this paper, the authors argue that technological innovation could enable cell phone companies to move a lot more data across their current spectrum resources, but those companies simply are not that innovative. Their focus is on lobbying the government for more hertz of bandwidth rather than on increasing the number of bits transmitted per hertz. The authors argue that the incentives for technological change rather than simple spectrum allocation should be of concern to policymakers.

The External Costs of Vehicle Weight

■ "Pounds that Kill: The External Costs of Vehicle Weight," by Michael Anderson and Maximilian Auffhammer. June 2011. NBER #17170.

In the early 2000s, there was considerable public attention given to whether the dramatic increase in the use of light trucks was a problem because of their weight and size. As part of the discussion, *Regulation* published an article that argued that increased sport-utility vehicle use saved lives on net because SUVs and other light trucks protect their passengers well (Douglas Coate and James VanderHoff, "The Truth about Light Trucks," Spring 2001).

The issue no longer garners much attention, but scholars continue to investigate it. In this paper, Michael Anderson and Maximilian Auffhammer argue that each 1,000-pound increase in the weight of a striking vehicle in an accident increases the fatality probability in struck vehicles by 0.09 percent. As the average probability of fatality in the authors' sample is 0.19 percent, each additional 1,000 lbs. of vehicle weight results in a 46 percent increase in risk. The average car on the road in 2008 was 530 pounds heavier than in 1988. From a Pigouvian perspective, a gas tax of 27 cents per gallon would account for the $35 billion in external costs from the average vehicle weight gain since 1988.

How would such a gas tax compare with the current corporate average fuel economy (CAFE) regime? CAFE imposes a "tax" on the price of a vehicle through higher capital costs while an explicit gas tax collects revenue over time. CAFE increases the price of pickup trucks by 0.6 percent (about $200) while an appropriate Pigouvian safety gas tax would be $4,000 over the life of the vehicle. Light truck frames impose significant risks on other motorists and provide little or no safety benefit for their own occupants according to Anderson and Auffhammer's statistical analysis. Light truck purchases should be discouraged but the new CAFE regulations that establish different mileage standards for different-size vehicles encourage them. R