In Review

That '70s Show

REVIEWED BY RICHARD L GORDON

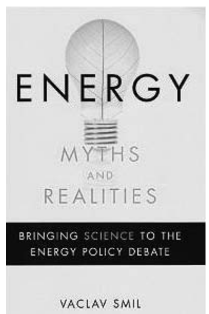
Energy Myths And Realities: Bringing Science to the Energy Policy Debate
By Vaclav Smil
213 pages; AEI Press, 2010

In the new American Enterprise Institute book *Energy Myths and Realities*, veteran energy commentator Vaclav Smil tackles energy mythology. The effort is welcome in several respects. Foremost, the book provides the insights of a careful, experienced observer into the arrant nonsense that is routinely presented in calls for radical changes in energy consumption practices.

The book reminds us how much energy policy drivel simply recycles the discredited ideas of the 1970s. Those ideas, in turn, were largely assembled from the dustbin of much older energy fantasies. In short, much low-lying fruit is easily picked, and Smil does so nicely.

The book represents a welcome return of AEI to the energy battles. In the wake of the oil price rises of the 1970s, AEI, under the leadership of William Mitchell of the University of Michigan, sponsored a series of pamphlets that beautifully skewered the nonsense of that day that is the nonsense of today. (Disclosure: I contributed to two of those pamphlets and wrote a third.)

The one significant flaw of Smil's book is that he shows confusion about energy conservation mandates. He presents ukases about the myths that he has chosen not to treat, but still scatters suggestions for such mandates throughout the book. Thus, AEI's return is not a full-



blown revival of its original broad-based anti-intervention outlook.

Most of the book is devoted to debunking seven "myths" — or more specifically, envisioned technologies that in reality are unlikely or impractical, and predicted disasters that in reality are unlikely to occur. Rather arbitrarily given the history, Smil divides the myths into two groups: three from the past and four that are now "in the headlines." The old-timers are electric cars, nuclear energy, and so-called "soft energy." The headline subjects are peak oil, carbon dioxide sequestration, liquid fuels from plants, and wind.

The core of the refutation is that these alternative energy concepts literally collapse under the weight of their overstated promise. The resources needed in order for these energy sources to be deployed broadly are so vast and time consuming to assemble that massive adoption would at best be very slow and most likely would not happen at all. Curiously, Smil concentrates on the sheer physical barriers to action. That speed prohibitively increases costs is left tacit.

Myths of the past | The electric car story goes back to the early history of the automobile when internal combustion, steam, and electric drive competed for supremacy. Smil recounts that Henry Ford was working for Detroit Edison when he began thinking about designing a gasoline-powered car. He left Detroit Edison and started his own company in the face of the Edison company's conviction that an electric car would prove preferable.

Then and now, internal combustion prevails because of the limitations of battery capacity. The further problem that electric cars would require an enormous increase in electricity generation capacity has lessened somewhat because of improved technology, but the infrastructure requirements still are formidable and unlikely to be avoided by relying on consumers to recharge their cars only when normal loads are low.

Smil notes the enormous problem of moving from the low-performance, high-cost electric cars presently available to the production of large numbers of cheaper, better electric cars. Beyond design issues is the gigantic task of constructing the facilities to produce batteries and generate additional electricity. He prefers internal combustion with higher gas mileage.

His nuclear discussion nicely conveys the history of pushing civilian nuclear power, which was initially undertaken mainly to prove that good, peaceful uses of nuclear research existed. This led to a rush of orders for nuclear plants starting in the late 1960s and ending a decade later, followed by cancellation of many of those orders. Smil correctly blames the collapse on nuclear energy's costs proving to be far higher than expected.

He recognizes that the nation's spate of nuclear plant production produced safe facilities that can operate 95 percent of the year. Smil suggests that the combination of safety fears and the long lead times in construction will slow a nuclear revival. Here his neglect of economics is problematic. The evidence, as defective as it is, suggests that nuclear remains uneconomic so long as limits on carbon dioxide emissions are not severe. Nuclear, however, appears a far more attractive alternative to fossil fuels than solar, wind, or biofuels as a response to greenhouse gas controls. Thus, the fate of nuclear depends on how

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vigorously such greenhouse gas emission controls are pursued.

The treatment of soft energy nicely skewers that super charlatan of energy nonsense, Amory Lovins. For more than three decades, Lovins has peddled the magic elixir of soft energy — small, nonpolluting energy sources that can be consumed in homes and business. He unabashedly asserts the practicality of these energy sources in the face of continued abject failure. In short, he is the quintessence of the poverty of standard energy discourse. Smil is content to skewer the substance of Lovins' vision. The main exception is arguing, correctly, that Lovins misunderstood the Robert Frost poem that Lovins uses to advocate a soft "path."

Headline myths | In treating peak oil, Smil starts by depicting efforts in the 1990s to curtail oil use out of concern for future scarcity, but then he turns to the long history of forecasts of oil depletion. He points out the central defect of such claims: the invalid pretense of knowledge of ultimately recoverable oil reserves. His neglect of economics is problematic in his handling of the unrealism of claims that oil output will suddenly nearly vanish. Economics clearly indicates that such sharp decreases will not occur because of the profitability of hoarding. Such hoarding has not occurred since 1973. Smil further weakens his case by calling for consumption management instead of noting that higher prices will screen out the less valuable uses.

In contrast, his technological approach is sufficient to skewer assorted harebrained schemes such as underground sequestration of carbon emissions in order to prevent or offset greenhouse gas emissions, as well as unlikely but modish energy sources such as fuel from plants and wind power. A discussion of the realities of those options makes clear that they cannot be broadly, rapidly, and economically adopted. One chapter nicely contrasts the wind-power pipedreams of T. Boone Pickens and Al Gore with the lessons of past energy transitions.

In the wind and transition chapters, his treatment of U.S. electricity interconnection is jarring. He correctly conveys that the winds are not near existing transmission lines. He implies that some sort of stupidity must be to blame for this, when in fact it is the result of prior absence of economic incentives to extend lines. In short, he succumbs to the cost-ignoring reasoning that the book is implicitly criticizing.

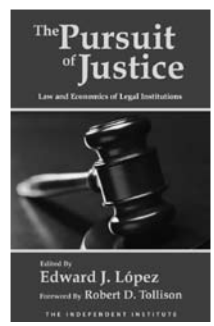
Book notes | I have two complaints about the book at the mechanical level. First, Smil hews largely, but not completely, to metric measures, including the use of joules (roughly BTUs, with the decimals shifted) rather than calories (oil-equivalent tons, again with decimals shifted). Second, the referencing is problematic. He relies on endnotes that are predominantly brief source citations. Even in a book for general audiences, name-date citations in the text would be preferable. The literature inclusion is idiosyncratic. The sole reference to economic analysis is a *Regulation* article by M.A. Adelman ("The Real Oil Problem," Spring 2004). Even the citations of those being criticized is spotty.

Thus, we have a readable, sensible survey of why a massive energy transformation is problematic. The book does a good job of relaying the academic literature on new energy technologies. It is a healthy corrective to the special pleading that has marred the U.S. discussion of energy.

More Efficient Justice?

REVIEWED BY GEORGE LEEF

The Pursuit of Justice: Law and Economics of Legal Institutions
Edited by Edward J. Lopez
320 pages; Independent Institute and Palgrave Macmillan, 2010



Nearly everyone agrees that one of the "public goods" that government must supply is a system of justice. Even the most ardent minimal-state libertarians generally agree that the administration of justice is a core function of government. Perhaps because of that agreement, little critical analysis has been given to the U.S. justice system. The kinds of efficiency questions that are routinely asked of other (and more controversial) governmental activities are seldom asked with respect to the justice system.

The Pursuit of Justice, edited by San Jose State economics professor Edward J. Lopez, goes a long way toward rectifying that omission. The book consists of his introduction and 11 original essays that will undoubtedly open many eyes to the serious problems that plague our efforts at ensuring just treatment for all citizens. As Clemson economist Robert Tollison points out in his foreword, the book gives us a "public choice" view of our justice system — a view that concentrates on the incentives of the individuals and institutions that run it, for example the American Bar Association. Is the ABA dedicated solely to seeing that justice is maximized, or will it sacrifice some justice to achieve maximum income for its members? (I will discuss that question in some detail later in this review, but the reader can probably guess the answer.)

Government and punishment | Unfortunately, there is not space enough here to consider each of the essays in full, although all are very worthy efforts. Instead, I will highlight a few of my favorites.

George Mason University Ph.D. student Nicholas Curott and Fayetteville State University economics professor Edward Stringham lead off the book with an essay

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on the development of the justice system in England. It did not spring full-blown from the mind of some beneficent king, but instead grew out of ancient legal norms that were not centrally controlled and emphasized restitution to victims. Those practices and institutions appear to have been effective at dispensing justice, but they did not put any money into the coffers of the king. Hence, the authors write, "Centralized police and courts were created to bring revenue to the state."

Whereas under Anglo-Saxon rule the courts demanded that wrongdoers make full restitution to their victims, following the Norman Conquest the emphasis changed to payment of fines to the state for a growing list of actions said to "violate the King's Peace." The court system became a major profit center for the English monarchy, one whose revenues were highly liquid compared with royal estates and the payment of feudal obligations from vassals. In summary, what had been an efficient private system of justice was converted into a more costly, less efficient governmental system because the rulers could exploit it.

The remainder of the book looks at America's contemporary justice system, and the essayists find much to criticize. In "Romancing Forensics: Legal Failure in Forensic Science Administration," Roger Koppl, an economics professor at Fairleigh Dickinson University and director of the school's Institute for Forensic Science Administration, turns over a rock to reveal the unpleasant truth about government crime investigation. While TV programs almost invariably depict forensic scientists as devoted and nearly infallible public servants, the fact is that they are ordinary people who respond to incentives that do not necessarily correspond with justice for defendants.

Most crime science laboratories in the United States are under the control of law enforcement agencies. As such, the people who work in them are prone to seeing their role as helping obtain convictions rather than getting at truths that would help defendants. "All forms of error from honest error to willful fraud are more likely to be made in favor of the prosecution than the defense," Koppl writes.

Among the error-prone aspects of criminal investigation, Koppl reports, is fingerprint analysis. He notes that studies have found high rates of false positives in fingerprint identification. Reforms he favors include transferring crime labs from police control to that of the medical examiner's office and adoption of a procedure of testing fingerprints in triplicate. That would add only slightly to the cost of fingerprint analysis, but would save far more money in eliminating further investigation and possible trials for defendants whose prints initially appear to match, but in fact do not.

Property rights | Two essays focus on the injustices wrought by eminent domain abuse. George Mason law professor Ilya Somin argues forcefully that government takings of real estate for the purpose of advancing economic development is an instance of government failure — it imposes high costs on individuals yet rarely catalyzes the promised economic benefits. He finds support for that contention in two of the most publicized takings cases: the 1981 *Poletown* case in which General Motors prevailed upon Detroit to seize a neighborhood it wanted for a new auto factory, and the 2005 *Kelo* case in which New London, CT took many homes for a proposed commercial development scheme.

In *Poletown*, the number of jobs created by the factory turned out to be only 60 percent of the number promised when GM was trying to sell the project. In *Kelo*, the entire project fell through after land had been seized, homes demolished, and people displaced. The judiciary approved of both, turning aside constitutional objections and looking with deference upon optimistic forecasts of project benefits issued by politicians. Somin observes that judges often "have an unjustified faith in the efficacy of the political process and thus may be willing to allow the executive and legislative branches of government to control oversight of development projects."

He concludes that government involvement in economic development is both harmful and unnecessary. Private developers can usually overcome holdouts who might stand in the way of projects; if they cannot, it is better that an occasional profitable development by shelved or delayed than that some people be evicted from their homes for nothing.

What about the fact that individuals who have their property seized must be paid just compensation? That is the subject of U.S. Interior Department economist John Bratland's contribution. Courts have generally adhered to a "fair market value" requirement, assuming that dispossessed property owners are made whole if they receive that amount.

Bratland eviscerates that notion, pointing out that value is subjective and includes emotional attachments people often have to property that cannot be priced. "Wholeness," he writes, "exists as a sense of being or a state of mind much in the manner of satisfaction. Only the property owner can be the judge of what compensation is sufficient to render him whole." The fact that judges allow politicians to take property without consent enables them to earn "political profits" by seizing land at artificially low cost to taxpayers and then trumpeting the resulting construction as a great benefit they have bestowed on society.

Benefiting lawyers | Judges are supposed to be impartial, favoring no litigant or group. Unfortunately, that is not always the case, contends University of Tennessee law professor Benjamin Barton in his essay, "The Lawyer-Judge Hypothesis." In good public choice style, Barton examines the incentives and predispositions of judges and finds that many of their rulings are explained by their affinity for the legal profession. That is to say, if a decision will channel benefits to the profession, judges will probably take it.

Barton cites a number of cases, the most interesting of which I think is *Florida Bar v. Went for It, Inc.* where the Supreme Court upheld a rule by the Florida Bar that prohibited lawyers from sending direct mailings to accident victims within 30 days of an accident. What could be wrong with tort lawyers soliciting business? The

Florida Bar's argument was that doing so was harmful to the reputation of the legal profession, and the Supreme Court agreed. The case, Barton says, "evinces a patent sympathy for the plight of the lawyer public image and a clear deference to the findings and desires of bar associations on these issues."

Judges do not always rule in a way that advances the interest of the legal profession – in the above case, after all, the Supreme Court overturned both the district court and appellate court decisions against the Florida Bar – but the lawyer-judge hypothesis has considerable explanatory power. It leads Barton to argue for the proposition that judges should not necessarily be lawyers. It might be better, he suggests, to follow the model of some civil law countries where judges are chosen and trained separately from lawyers.

Lastly, I wish to comment on California-based public policy consultant Adam Summers' essay on the harmful effect of lawyer licensing. In the interest of full disclosure, I will mention that Summers quotes from a paper of mine on the subject, as well as work by others who have similarly concluded that licensing is beneficial for the legal profession but does little or nothing to protect consumers against incompetence.

Earlier in our history, America enjoyed a free market in legal services – no educational credentials or licenses were required for practitioners, and consumers could deal with anyone they wanted to. The ABA, Summers shows, moved mountains to obliterate that free market and cartelize the legal profession. It employed its considerable political clout to prevail upon state legislatures to mandate attorney licensure, which nearly all states conditioned upon graduation from an ABA-accredited law school. Little of what a lawyer needs to know in his work is actually learned in law school, and what he does use could be learned outside of law school. It is just a costly barrier to entry.

For anyone with the temerity to try earning money on the cartel's "turf" without becoming a member, the organized bar has laid down a minefield known as "unauthorized practice of law." Summers recounts the ugly details of some of the cases in which individuals who have been rendering competent and affordable legal assistance without a license have been dragged into court by state or local bar officials, forced to desist, and pay penalties. I am aware of no case in which a judge has ruled in favor of a defendant in an unauthorized practice case, even though it is usually clear in such cases that the defendant's work was competent and filled a market need. The fact that judges are so sympathetic to the bar's crusade against competition is strong evidence in favor of Barton's hypothesis.

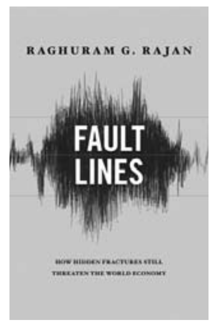
The Pursuit of Justice is a thought-provoking volume. Running the justice system may be a core function of government, but the government could and should do a far better job of it. R

Partly Right on the Crisis

REVIEWED BY DAVID R. HENDERSON

Fault Lines: How Hidden Fractures Still Threaten the World Economy
by Raghuram G. Rajan
260 pages; Princeton University Press, 2010

Jimmy Stewart Is Dead: Ending the World's Ongoing Financial Plague with Limited Purpose Banking
by Laurence J. Kotlikoff
241 pages; John Wiley and Sons, 2010



In *Fault Lines*, University of Chicago finance professor Raghuram Rajan gives his take on what led to the U.S. and global financial crisis of the last three years and what should be done about it. His analysis and proposals are uneven. When he sticks to what he knows best – international financial markets – he is usually clear and often insightful. When he ventures beyond his expertise – in discussing such topics as income inequality, education, and health care – he fails to go back to basics and thus repeats many of the myths that have been propagated by "progressives."

Income inequality and housing finance

Rajan's basic message is difficult to put succinctly. There are so many strands in his argument, so many hedges, and so much vagueness that this reader came away, even after a careful reading of every word and every footnote, without a clear understanding of his thesis.

But let me try anyway. His argument is that because income inequality in the United States has increased in the last few decades, politicians, aware of this but unwilling or unable politically to engage in massive distribution from rich to poor, have instead looked for a quick fix. Their quick fix is to subsidize home ownership for people who have not qualified for traditional mortgages. That was a major factor leading to the mess we are in. Another factor behind the mess is the incentives that cause financial firms to bet against the small probability of a large loss. Rajan's solution is to pare down the amount of government subsidization of home ownership and substitute more government spending on schools and unemployment insurance for those who will often be tem-

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porary losers in a dynamic economy.

Much of Rajan's analysis is spot-on. In a 12-page section titled "A Short History of Housing Credit," for instance, he walks us through the dreary alphabet of government agencies that, starting during the Franklin Roosevelt era, subsidized house mortgages. Before this intervention, he notes, mortgages were typically for five years, at variable rates, and for no more than half the value of a house. That gave house buyers a strong incentive to be careful before purchasing. But beginning with the Home Owner's Loan Corporation and the Federal Housing Administration in the 1930s, and then on to the Federal National Mortgage Association in all its guises (first as a government agency and later as a government-sponsored enterprise), the federal government shifted the risk from the borrower and lender to the hapless taxpayer. The Clinton administration added to the mess in the 1990s by beefing up enforcement of the Community Reinvestment Act of 1977. A 1995 Clinton administration document stated:

> For many potential homebuyers, the lack of cash available to accumulate the required down payment and closing costs is the major impediment to purchasing a home.... Financing strategies, *fueled by the creativity and resources of the public and private sectors*, should address both of these financial barriers to homeownership [emphasis Rajan's].

He comments:

> Simply put, the Clinton administration was arguing that the financial sector should find creative ways of getting people who could not afford homes into them, and the government would help or push wherever it could.

In 2004, notes Rajan, George W. Bush increased the low-income mandate on Fannie Mae and Freddie Mac to 56 percent of their assets. Rajan quotes the findings of Edward Pinto, a former chief credit officer of Fannie Mae, that, on average, Fannie, Freddie, and the FHA accounted for 54 percent of the house-mortgage market and, in 2007, a whopping 70 percent. Rajan comments, "It is very difficult to reach any other conclusion than that this was a market driven largely by government, or government-influenced money." Indeed.

Risk | Also, I think Rajan is correct in his fundamental analysis of what caused the 2007–2008 financial crisis: the mispricing of risk. In a chapter titled "Betting the Bank," he gives an excellent analysis of the incentives of financial managers to bet on "tail risks" — that is, risks that occur very rarely. If nothing goes wrong, the firm and manager make high profits and bonuses, respectively. But in that small-probability case where things go wrong, the firm takes a huge hit. He points out that the prospect of a government bailout makes the long-tail bet even more attractive. Interestingly, he does not mention Columbia University finance professor Charles Calomiris's point that decades-old laws make it illegal for hedge funds to own banks or for any other entity to own more than a small percent of a bank's shares. If such concentrated ownership were allowed, and if financial firms could count on not being bailed out, then owners would monitor management more effectively and be more likely to enforce restrictions against excessive risk-taking.

Rajan's arguably most important chapter is "Reforming Finance." In it, he advocates a number of major reforms and criticizes other proposed reforms. The analysis is too wide-ranging to summarize. But one of the most important proposals involving housing finance is to "back off from government intervention, to the extent possible." This would involve breaking up Fannie and Freddie into a number of smaller private entities, none of which would have an explicit government guarantee, and shrinking the FHA and Ginnie Mae. He also proposes having the Fed avoid cutting interest rates to near zero, as he claims it did during the last decade. (An aside: In "Greenspan's Monetary Policy in Retrospect," (*Cato Briefing Papers*, November 3, 2008), Jeffrey Hummel and I show that the data do not support this standard view of Alan Greenspan's monetary policy. Virtually all of the economists and journalists who have repeated this claim judge the tightness or looseness of monetary policy by interest rates rather than by the growth of various measures of the money supply. By that standard, monetary policy during the early part of the Great Depression, when the money supply fell by 30 percent, was loose.)

One of the book's greatest strengths is Rajan's masterful exposition of the Chinese government's currency policy. He explains a relatively complicated issue step-by-crucial-step. China's central bank, the People's Bank of China, buys dollars from Chinese exporters to keep the Chinese currency, the renminbi, from appreciating. But with the number of renminbi increasing, the result would normally be inflation and the PBOC does not want that either. So, it "sterilizes" the excess renminbis by selling debt. To avoid paying too high an interest rate on this debt and taking a large loss, the PBOC sets interest rates artificially low. It does so by limiting the interest rate banks are allowed to pay on their deposits so that the government-issued debt is competitive. Then, when the Chinese government wants to limit credit, it uses the blunt tool of credit controls, which cause banks to discriminate against private firms that lack strong connections. That makes it hard for private Chinese firms to plan long-term.

Criticism of Rajan | So, why am I not in love with this book? Start with Rajan's discussion of income inequality, a crucial part of his case for different government intervention. Although he is correct that U.S. income inequality is high, Rajan also argues that U.S. income mobility is low and that the economic well-being of lower-income people is not improving. He writes, for instance: "[C]ross-country studies suggest that people in the United States are not much more mobile across income classes than in European countries." But this nonetheless means that lower-income Americans are *more* mobile, if only a little, than their European counterparts. More important, the income distribution in European countries is typically much more compressed than in the United States. Therefore, the ranges of income for each quintile in Europe are smaller, which means that if a person were to experience the same absolute increase in income in Europe and in the United States, that person would have a much higher probability in Europe of moving to the next compressed quintile. But income mobility in the United States is slightly higher even though a move up to the next quintile takes a larger increase in absolute income. This is eloquent testimony to the still-large degree of income mobility in the United States.

Only two paragraphs after acknowledging that income mobility in the United States is higher than in Europe, Rajan treats as fact the idea that "Americans no longer have the chance to be upwardly mobile." To be sure, he puts an "if" in front of this claim, but the paragraphs that follow suggest that Rajan accepts the idea that upward mobility is almost dead. The words "economic freedom," he asserts, "offer a nightmare of great and continuing insecurity, and growing envy as the have-nots increasingly become the have-nevers."

Moreover, he makes an assertion at odds with much of the reality of economic progress. He writes, "[T]he immobile are hurt when others move up." How? "When others in town become richer," he writes, "the cost of everything goes up, and the real income — the income in terms of its purchasing power — of the economically immobile falls." Certainly, one can find examples like that. If, for example, the government in a town restricts building, the resulting fixed supply, combined with increasing demand from richer people, will drive up the cost of housing for everyone. But economic progress is often the story of new products entering the market as luxuries and later falling in price so that a generation — or even a few years — later, even the lowest-income people can purchase them. Think about VCRs, for example. The first ones were priced above $2,000 in mid-1970s dollars. Twenty-five years later, they often sold for under $100. Now they are obsolete. Or think about the falling prices — along with the increasing quality — of cell phones, microwaves, electric washers and dryers, electric dishwashers, and airline travel.

To buttress his income inequality concerns, Rajan throws in the emotion of envy. Even if the apparently immobile are buying more and better items, they compare themselves negatively with those who have even more and better items. "[M]y Chevrolet becomes much less pleasurable when my neighbor upgrades from a Honda to a Maserati," he writes. I think that is Rajan's problem. If the apparently immobile are getting nicer and nicer cars — yes, even Chevrolets are getting better — then it is up to them to control their own green-eyed monster. It is hardly an indictment of the system if wealthier people can afford Maseratis.

Finally, he admits that one reason for high income inequality in the United States is the large number of immigrants who "swell the ranks of those who appear down and out in America." So, earning low incomes in the United States is progress for those immigrants compared to their previous situations in their home countries. Although Rajan recognizes this fact, his discussion that follows completely ignores it.

Also, although Rajan states as a principle for policy that we should "make decision makers internalize the full consequences of their decisions," some of his own proposals violate this principle. One major violator is his idea for tax credits for workers who, after having worked a number of years, decide to take time off "to study or retool." This is a subsidy to people where there is no large externality. Rajan makes this proposal because he worries that people do not have a savings buffer to handle the exigencies of the job market. But he never even mentions the possibility of a private voluntary solution: save more. Also, rather than eliminating the huge subsidy to mediocrity that current government schools represent, Rajan writes like a central planner who wants, by fiat, to change this wage and tweak that program within the government school system.

Government demands | Something that undercuts Rajan's message and proposals is his on-again, off-again treatment of the incentives and motives of government officials. He writes, for instance:

> When a U.S. Treasury employee goes directly from running the biggest bailout fund in history to work for a company that runs the biggest bond fund in the world, and when another Treasury employee goes from organizing financial-sector rescues directly to running one of the banks that is most in need of rescue, the public's trust is strained. No matter how honorable the intentions of the individuals in question (and I have no doubt that they are honorable) or how careful the new employer in avoiding conflicts of interest, the deals, to put it mildly, stink.

Really? He has *no doubt* that they are honorable? Based on what evidence or reasoning? He does not say.

Rajan states that the adverse-selection problem in health insurance is that health insurance plans attract too many of the high-cost sick people and too few of the low-cost healthy people whose premiums are necessary to subsidize the expenses of the sick. But this statement of the adverse-selection problem makes it sound as if it would be desirable to charge high rates to the low-risk people. In fact, the adverse-selection problem, if it even exists, exists because of the high cost to the insurance company of distinguishing between low and high risks. The solution to adverse selection is to distinguish between high and low risks and price accordingly so that low-risk people do not subsidize high-risk people. That is why it is a bad idea to ban insurance companies from pricing based on pre-existing conditions.

Also, Rajan sometimes uses fuzzy language where precise language is needed. For example, in correctly criticizing the proliferation of government requirements for people to engage in various occupations, he characterizes these requirements as "workplace demands." But they are often simply government demands. Many people would like to hire a flower arranger, for example, whether or not the government has certified her, but the government will not allow it in Louisiana. Indeed, lawyers at the Institute for Justice, a public-interest law firm, make a living suing against just such outrageous requirements.

Finally, Rajan sometimes leaves out important details that would have been easy to fill in. He writes, for example, that "[t]oo many mortgages came from the same suspect, aggressive broker from the same subdivision in California." But he does not tell us who the broker was. Inquiring minds want to know.

Kotlikoff | Laurence Kotlikoff's book *Jimmy Stewart Is Dead* gives an excellent, dramatic play-by-play on many of the policies that led to the financial crisis of 2007–2008 — or should I say, 2007–201? — and on many of the participants. You will not read this book and come away feeling secure about our financial future. And the reason is that various government policies — deposit insurance for bank deposits, bailing out banks and other financial firms, bailing out Fannie Mae and Freddie Mac — have created a situation in which we are all in this together whether we like it or not. (Those are my words, not his.) In other words, even if you want to avoid having your financial future tied in with that of Fannie Mae, AIG, Citibank, or the U.S. government, even if you prudently plan your financial life and diversify your risk, the U.S. government can bite you. One way is to tax much of your future income to pay for bailouts.

Boston University's Kotlikoff, a well-published economist who has written articles for many of the top scholarly journals, writes with a humorous anger that is, frankly, refreshing. Here is Kotlikoff on Stan O'Neal, former chief executive officer of Merrill Lynch, who had Merrill buy $41 billion in subprime mortgages:

> Merrill, whose symbol is a horned bull and whose motto is "Merrill Lynch is bullish on America," survived lots of bear markets, including the Great Depression, but it didn't survive Stan.

In telling why AIG hired Joseph Cassano, former chief financial officer of AIG's Financial Products unit, who "more or less single-handedly destroyed the entire company" by selling credit defaults swaps, Kotlikoff writes:

> [H]e had majored in political science, which everyone knows provides superb training in actuarial science, stochastic calculus, time-series econometrics, risk modeling, and the many other, highly specialized mathematical and quantitative skills needed for a career in insurance and banking.

Refreshingly also, Kotlikoff does not hesitate to criticize even his own past co-authors. One such co-author is Lawrence Summers, of whom Kotlikoff writes:

> Summers received $5 million for working just one day a week for D.E. Shaw, one of Wall Street's largest hedge funds. Again, connections, rather than financial acumen, seem to have been at play in setting pay.… Funny enough, the Geithner-Summers plan for ridding banks of their toxic assets, the Public-Private Investment Fund … includes a starring role for large hedge funds.
>
> If D.E. Shaw was paying Summers to advise on financial matters, they were likely wasting their money. When it comes to making financial deals, Summers' skills aren't exactly impeccable. Harvard lost well over $1 billion of its endowments thanks to interest rate swaps Summers had the university purchase while he was running the show.

Kotlikoff also retells the story of Bernie Madoff, who ran a Ponzi scheme that lost billions of dollars for his investors. The Securities and Exchange Commission had received six different complaints about Madoff over the years, and one of them was a detailed letter in 1999 that actually accused Madoff of running a Ponzi scheme. Madoff himself later pointed out how easily the SEC could have investigated this charge: check his asset holdings with the third parties that supposedly hold the assets and conduct the trades. The SEC never did.

Financial regulations | So what is Kotlikoff's solution? Announce the dissolution of Fannie Mae and Freddie Mac? End the policy of bailouts? End deposit insurance? No. Kotlikoff would dramatically change the financial industries by having government require what he calls Limited Purpose Banking. Under this form of banking, the government would require all banks, which he defines broadly as "all financial and insurance companies with limited liability," to operate as pass-through mutual fund companies. Those companies, in other words, would simply operate as middlemen. They would not be allowed to invest on their own account. To make sure they do not break the rules, Kotlikoff would replace the existing 115 financial regulatory agencies (that number includes state agencies) with one giant regulator: the Federal Financial Authority (FFA).

Kotlikoff would give the FFA a huge role in regulating the activities of financial firms. He gives an example of someone who wants a mortgage so that he can buy a house. When the potential borrower applies for the loan, the bank sends the paperwork on to the FFA, which would use private rating agencies to assess the loan's risk. Then the FFA would reveal this information online (hiding the borrower's identity) and open it up for bids on the mortgage.

Do you see the problem here? The same government that failed to catch Bernie Madoff and that takes months to get back to people about their applications for Social Security Disability Income is suddenly competent and able to get information about a specific person quickly to a bank. I think this makes Kotlikoff's proposal a non-starter, and I have not even discussed the fact that various financial firms will try to find ways around his proposed draconian restrictions on corporate risk-taking.

The sad fact is that for all his criticism of government, Kotlikoff still clings to a strong belief in good government intentions and government efficacy. For example, he points to the Food and Drug Administration as an example of a government agency that works well. He states that the FDA has gotten in trouble in recent years "by letting the drug companies play far too large a role in the drug approval process," but, he claims, "our drug approval system works because it's not too strict." Those who read my recent review of two books on the FDA ("Regulation Overdose," Summer 2010) will be surprised to learn that the FDA works and is "not too strict." Kotlikoff actually claims that the FDA allows drug companies to sell drugs that have not been tested. That has not been true since 1938. Who else thinks that the system does not work? Probably some of the tens of thousands of people who cannot buy drugs because the huge testing burdens put on drug companies often make the drug not worth pursuing.

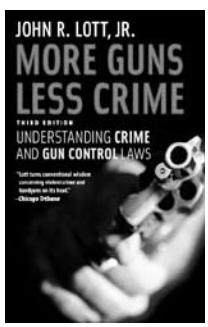
Why not get rid of Fannie, Freddie, and the FHA? Kotlikoff explains, "Were it not for new mortgages issued by Uncle Sam through Fannie, Freddie, and FHA, we'd have almost no housing market, period." This is a stunning case of failing to recognize what 19th century economic journalist Frederic Bastiat called the "unseen." The fact that the U.S. government, with the agencies Kotlikoff names, has pushed out private lending by subsidizing risk does not mean that if those agencies closed down, lenders would not exist. It is just that they would have tighter standards and mortgage interest rates would be somewhat higher. If Kotlikoff were to look at Canada's Medicare — Canada's single-payer plan — through the same lens, he would write, "Were it not for payments by the Canadian government to doctors and hospitals, there would be almost no market for medical care, period." The reality, of course, is that if health insurance in Canada were not socialized, Canadians would buy health care as they did in the 1960s, before it was heavily socialized. When there are willing buyers and sellers, and neither side is subsidized, there will be a market as long as buyers are willing to pay more than the price that suppliers insist on. This applies whether the good is health care or mortgage loans.

Conclusion | So, read Rajan and Kotlikoff if you want to learn more about the laws (Rajan) and the players (Kotlikoff) behind the current financial mess. But if you want solutions, Rajan has a few in the financial area and none outside his expertise, and Kotlikoff's pet solution is a non-starter.

Torturing the Data?

REVIEWED BY STAN J. LIEBOWITZ

More Guns, Less Crime: Understanding Crime and Gun Control Laws, 3rd ed.
By John R. Lott Jr.
472 pages; University of Chicago Press, 2010



John Lott's book *More Guns Less Crime*, first released in 1998, has completely changed the debate about the effect on crime of individuals carrying concealed weapons. Instead of the old assumption that concealed guns mean more violent crime, firearms policymaking now asks how much of the decrease in violent crime is due to concealed carriage.

Although Lott's conclusions are very controversial, it is not controversial to say that he created and analyzed a massive data set of crime and socioeconomic statistics covering all counties in the United States for several decades. He used the data set to examine the effect of the passage of right-to-carry (RTC) concealed weapons laws on categories of violent crime such as rape, murder, and robbery. Lott has made his data set readily available to all interested researchers, which is not the usual behavior of someone trying to hide shoddy analysis.

Unfortunately, making one's data available to others is not a common trait of economists. A few attempts by researchers to gauge the degree to which econometric analyses in economic articles can be *replicated* (meaning merely that the results are double-checked using the same data and identical statistical technique) indicated that many published articles in good journals could not be successfully replicated. (See the writings of B. D. McCullough.) Yet replicability is a low hurdle. If a study's results can be replicated, it merely means that the authors are not fabricating or misreporting their results — it does not mean that their results are reliable. Nevertheless, embarrassed by the poor results from the few attempted replications, an increasing number of leading economic journals have adopted policies requiring authors to make their data and regression codes publicly available with the hope that economists would be more careful if cross-checking of results by other economists was possible.

Lott's results have passed the replicability test with flying colors.

The more important question is whether the results reported by researchers are robust to other reasonable choices for analyzing the data. Lott provides a large array of results in an attempt to demonstrate that his findings are robust, i.e., that he has not tortured the data to get his results. Because of the controversial nature of the topic and Lott's willingness to share data, his work has undergone a great deal of critical scrutiny checking the robustness of his findings.

This new (third) edition of *More Guns, Less Crime* includes much new material representing Lott's response to his various critics. This debate is the focus of my review.

Criticism of Lott | As this edition of the book reveals, Lott's initial research was immediately attacked with a level of vitriol that says more about some of his critics than it does about the quality of his work. Spokesmen for several gun control groups, to their shame, repeated allegations about Lott's research that were obviously false, such as the claim that his research was funded by the gun industry because Lott was an Olin Fellow at the University of Chicago (equivalent to claiming that recipients of Rockefeller Foundation grants are in the pocket of

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the oil industry) or that his original journal publication on this topic was not peer reviewed. Some critics created a malicious website purporting to be his that featured their fictional version of him making ridiculous statements and answering questions in a manner that would discredit him in the eyes of anyone unaware that the site was a fake. Some critics created a brouhaha about the validity of a survey conducted by Lott even though the survey played virtually no role in his analysis. Enormous attention was given to the fact that Lott was caught in an anonymous web posting praising his teaching abilities while pretending to be someone other than himself. Although his action was foolish, it is no more relevant to this debate than is his brand of underwear.

Although academic discussions of Lott's work have been more heated than normal, they do not appear to have gone off the deep end. There are a number of academic studies supporting Lott's thesis and a number that are strongly critical. Are these studies carefully scientific, as we would hope, or are the authors torturing the data?

First, it is useful to understand some of the ways that the data can be sliced and diced. The analyst has to decide how to measure the effect of RTC laws on crime. Should county level data or state level data be used? Should all counties (or states) be given equal weight? What control variables should be included in the regression? What violent crime categories should be used? How should counties that have zero crimes in a category, such as murder, be treated? How much time after passage of a law is enough to determine the effect of RTC laws? What is the appropriate time period for the analysis? Although this gives a flavor of the choices, there are many more decisions than just these, and the number of possible choices for the econometric analysis is astronomical.

Unfortunately, although Lott's book attempts to refute his critics, it is not organized in a way that makes such a refutation easy to follow. The book is arranged by topic, which means Lott discusses a single critic in several different places. Some of his arguments appear in the main text, some in appendices, and some in notes at the back of the book. I can understand that, for traditional readers of his book, it might make sense to tell a coherent story about the effect of RTC on crime, proceeding topic by topic, but I would have preferred to see him discuss all the salient aspects of a particular critique in one place. I would suggest that a website doing this would be useful. Of course, a careful reader would also need to examine the writings of the critics to make sure that Lott was fairly representing their claims.

My reading of his book and the attendant literature indicate that there are three main attacks on his work. I will discuss each of these attacks in turn.

Black and Nagin | The earliest of the criticisms, by Dan Black and Daniel Nagin, performs several alterations to the most basic of Lott's multiple statistical approaches. First, because small counties are likely to have less reliable data, Black and Nagin remove all counties with a population of less than 100,000 (reducing the sample of counties by approximately 75 percent). Lott counters that he used weighted regressions (i.e., bigger counties are given more weight) so that small counties had only a small effect on his results. Lott also had, among his many regressions, restricted his sample for various minimum-size counties without changing his results. So it is little surprise that this change hardly affects his results.

Black and Nagin then calculate, for the larger counties, the effect of the passage of RTC for individual states. They find wildly varying coefficients. This very well could indicate a problem if the chosen classification — states — was meaningful in this context. The problem is that some of their "states" are left with almost no counties when small counties are removed (three of the ten "states" with RTC changes had only one remaining county and five states had less than four counties). Given this, a wide variation across states is not surprising.

Black and Nagin also discovered that removing Florida weakens Lott's results. Lott retorts that almost 25 percent of the counties that experienced changes in RTC laws were in Florida. There are few empirical results in economics that would hold up if critics could choose which 25 percent of observations to remove. More importantly, Florida was not considered *sui generis* until it provided a way to refute Lott. *Ex post*, Black and Nagin can only point to the Mariel boatlift as a possible reason to remove Florida, but Lott notes that the boatlift occurred seven years prior to Florida's passage of its RTC law and that Florida crime rates had subsided to their old levels before its RTC was changed.

Finally, Black and Nagin look at individual years before and after implementation of the law to see if there is a trend. They claim that examining the results in this way shows that Lott's conclusions disappear. Lott had performed what appeared to be an identical analysis and expressed surprise that his results differed from theirs. Black and Nagin imply that they are merely altering Lott's base specification, but the number of observations in their regressions appears to indicate that they are also removing Florida from the analysis, although Black and Nagin do not tell the reader this. If so, this is not a new result, just a repetition of the Florida results.

One final item should be noted about Black and Nagin. Early in their paper, they falsely claim that Lott had ignored many of these issues in his paper. This claim is so obviously false that it somewhat discredits them as impartial analysts.

Duggan | An article by Mark Duggan, published in the very highly regarded *Journal of Political Economy*, disputed Lott's results both directly and indirectly. Duggan's indirect criticism was based on looking at whether changes in the readership (by state) of the magazine *Guns and Ammo* (proxying for gun ownership) are associated with changes in homicides. One immediate problem is that gun ownership is not the same thing as the carriage of a concealed weapon, so both Duggan's and Lott's results could be correct and yet differ from one another. Also, criminals presumably do not carry guns based on RTC laws, although law-abiding citizens do. Lott's analysis, therefore, focuses on the impact of arming law-abiding citizens, while Duggan's analysis, using a proxy for gun ownership, includes both law-abiding citizens and criminals. Therefore, it would not be surprising if Duggan's analysis found a less benign impact than Lott's analysis.

Indeed, Duggan finds that increased gun magazine readership is associated with increased murder rates, although he uses state data with fewer control variables than Lott used. Lott, however, criticizes the magazine data used by Duggan. Lott claims that the publisher of *Guns and Ammo* had stated that approximately ten percent of the magazines were given away each year in states where crime rates were increasing. If that is true, it would bias Duggan's results in favor of finding a positive impact of magazine subscriptions on crime even if none existed. Lott further claims that when other gun magazines are used in a similar analysis, they show a much weaker relationship with the murder rate. If Lott's information and data are correct, these are powerful critiques of Duggan's results.

Duggan's direct tests consist of alterations to the basic Lott analysis. First he performs a technical correction for the measured standard error, which lowers our confidence in the results but not the size of the result. Nevertheless, four out of five violent crime categories remain statistically significant, although a typo in Duggan's published table incorrectly indicates that only two of the five remain statistically significant. Then Duggan makes an arguable adjustment to the dates that state RTC laws took effect, which reduces somewhat the size of RTC's impact on violent crime — but murders, rapes, and assaults still appear to have important and statistically significant reductions.

Next, Duggan makes increasingly questionable changes to Lott's estimation procedures that, while eventually having the effect of overturning Lott's results, do so in a rather dubious manner. In all, he makes five sets of changes that seem cumulative, although from the text it is unclear whether or not the changes are cumulative. If these changes are cumulative, then as he moves from one dubious change to another, Duggan is compounding the flimsiness as opposed to just presenting a new questionable alteration.

One change Duggan makes is to remove all the demographic and socioeconomic variables such as arrest rates, poverty rates, racial makeup, unemployment rates, and so forth that tend to explain rates of violent crime. This seems like a misguided exercise counter to normal econometric logic and common sense. Finally, Duggan includes all counties, even those so small that they had zero crimes (for a crime type) in a given year (contrast this with Black and Nagin who claim that Lott includes too many counties). He can do this since he has thrown out the arrest rate as an explanatory variable, which would otherwise be undefined and removed in Lott's examination. In Duggan's regression, very small counties are given equal weight to large counties and they are likely to have either very high (e.g., if someone was killed) or very low (e.g., if no one was killed) crime rates. Duggan does overturn Lott's results, but I find his method very unconvincing.

Lott's response to Ayres and Donahue was not very convincing and he seems to have largely ignored the question of unbalanced panels over time.

Ayres and Donahue | The final set of critics is Ian Ayres and John Donahue III, who provide what I believe to be the most persuasive criticism of Lott's results. They originally wrote a 1998 book review of his first edition in which they seemed open-minded toward Lott's work. Although their book review pointed out numerous possible problems (including those from Black and Nagin), they seemed to have two main concerns: First they worried that the crack epidemic might have biased Lott's analysis because he did not take it into account. Second, they argued that the impact of RTC on robbery is the most direct test of the reasoning explaining why RTC might lower crime (since criminal and victim come into contact and the crime is an economic not emotional one), yet they believe that Lott's measured impact of RTC on robbery is weaker than the impacts on other violent crimes, calling his results into question. These seem like reasonable concerns, although Lott responds to the robbery claim by pointing out that there are many forms of robbery besides street robbery (e.g., robbery of small retailers) and thus robbery might not be more strongly related to RTC than are other forms of violent crime.

In a far more critical 2003 critique of Lott, Ayres and Donahue raise a different set of possible problems. They use data that extended further in time and claimed that the newer data not only eliminate Lott's results, but actually indicate that RTC increased violent crime. However, Lott also had extended the data and found that the overall results did not change.

Using statewide data, Ayres and Donahue reported that Lott's results disappeared when some of his seemingly unimportant demographic variables were eliminated in an intuitively plausible manner. They also reported that Lott's overall results were affected by a small number of states that had the longest histories after the passage of RTC laws, and that when the analysis was conducted with a more consistent set of states, Lott's results disappeared or reversed. I found this last discussion particularly compelling. Lott's response to their results based upon their removal of seemingly duplicative (collinear) demographic information was not very convincing and he seems to have largely ignored the question of unbalanced panels over time.

But these results were for states, not counties. I waited as I read the Ayres and Donahue critique for the same analysis to be applied to Lott's main county-based methodology, but it never came. I could only conclude that Ayres and Donahue were unable to discredit his county-based results with those arguments. Instead they reverted to a variant of Black and Nagin's criticism where results based on counties were lumped into states and the state results compared to each other, which does not seem particularly compelling given that the major variation in crime occurs across counties.

The original respect between Ayres/Donahue and Lott also seems to have evaporated. Lott tries to diminish most of Ayers and Donahue's work in this area by stating that it is not peer reviewed. Although that is true (i.e., it is published in law reviews), it is largely irrelevant since Ayres and Donahue are very competent analysts. Lott also is disingenuous in his explanation of the *Stanford Law Review* article by Florenz Plassmann and John Whitley from which he removed his name due to a dispute with the editors; Lott treats the paper as if he had little or nothing to do with it. Ayres and Donahue, for their part, after expressing how important a defect it was for crack cocaine to be left out of the original analysis, appear happy to then ignore the subsequent results on crack cocaine presented by Lott and more specifically by Carlisle Moody and Thomas Marvell, presumably because those results do not support their hypothesis. Ayres and Donahue also claim that Lott does not discuss the theoretical possibility that guns might increase crime, when in fact he had used the very story that they provide to illustrate the point. They also dismiss Lott's claim that robbery might not be most greatly affected by RTC by ridiculing Lott's claim with reference to the small number of bank robberies as if that was the main alternative to street robbery. Lott's claim is deserving of a serious answer.

Conclusion | What then are we left with? First, no one has, in my opinion, credibly shown a positive relationship between RTC and violent crime. The few positive coefficients that the critics have presented do not appear to be at all robust. The critics have been better able to show particular circumstances under which Lott's negative results partially disappear. Are those showings sufficient to say that Lott's results are not robust? That is a hard question. Because of the prominence of this issue and given the resources and efforts that appear to have been expended by Lott's critics, it seems like they have not gotten a lot of bang for their efforts.

My reading is that RTC has probably lowered violent crime somewhat, but not in a terribly consistent manner. That really is enough of a result to conclude that Lott's analysis has largely held up under these criticisms. There are not many policy studies that would hold up as well under such a sustained attack. R

READINGS

- "Confirming 'More Guns, Less Crime,'" by Florenz Plassmann and John Whitley. *Stanford Law Review*, Vol. 55, No. 4 (April 2003).
- "Crime, Deterrence, and Right-to-Carry Concealed Handguns," by John R. Lott and David B. Mustard. *Journal of Legal Studies*, Vol. 26, No. 12 (December 1997).
- "Do Right-to-Carry Laws Deter Violent Crime?" by Dan A. Black and Daniel Nagin. *Journal of Legal Studies*, Vol. 27 (1998).
- "More Guns. More Crime," by Mark Duggan. *Journal of Political Economy*, Vol. 109, No. 5 (2001).
- "Nondiscretionary Concealed Weapon Laws: A Case Study of Statistics, Standard of Proof, and Public Policy," by Ian Ayres and John J. Donohue III. *American Law and Economics Review*, Vol. 1 (1999).
- "Shooting Down the More Guns, Less Crime Hypothesis," by Ian Ayres and John J. Donohue III. *Stanford Law Review*, Vol. 55 (2003).
- "The Concealed-Handgun Debate," by John R. Lott Jr. *Journal of Legal Studies*, Vol. 27, No. 1 (January 1998).
- "The Debate on Shall-Issue Laws," by Carlisle E. Moody and Thomas B. Marvell. *Econ Journal Watch*, Vol. 5, No. 3 (September 2008).

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 *Cato Institute*

Shadow Banking

- "Bankruptcy's Financial Crisis Accelerator: The Derivatives Players' Priorities in Chapter 11," by Mark Roe. March 2010. SSRN #1567075.
- "Regulating the Shadow Banking System," by Gary Gorton and Andre Metrick. September 2010. SSRN #1676947.

In last summer's "Working Papers," I discussed several papers that examine the shadow banking system. To briefly recap, in the shadow banking system, excess corporate and investor cash is "deposited" in (what used be called) investment banks. Because those banks were outside the regulated deposit-insurance commercial banking system, the investment banks supplied collateral to the depositors to "guarantee" the deposits. If the investment bank failed to return the cash at the end of the specified period of time — often just one day — the depositor took possession of the collateral, which had a market value equal to or more than the cash plus the owed interest.

Originally, collateral in the shadow banking system was limited to Treasury securities, Fannie Mae and Freddie Mac debt, and federally insured certificates of deposit. But demand for collateral was exceeding the supply and securitized loans filled the gap. In September 2008, investors lost faith in the quality of the securitized loans, withdrew their money from the shadow banking system, and instead invested in short-term government treasuries. This withdrawal of funds was the 21st century equivalent of a

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bank run from the Depression era, except that the scared parties were large investors rather than the ordinary individual depositors of the Depression.

A new paper by Gary Gorton and Andrew Metrick recounts this story in more detail and describes their proposal to bring shadow banking back within the regulated system. They argue that the Dodd-Frank financial reform bill that became law earlier this year did little to reform the shadow banking system. They propose to create a new chartered entity that they refer to as a Narrow Funding Bank whose sole purpose would be to purchase securitized loans and issue short- and long-term debt to fund itself.

Gorton agrees with Mark Roe (whose work was among the papers I reviewed in the summer issue) that the spectacular rise in the use of short-term repurchase ("repo") agreements collateralized by securitized loans was the result of special advantages given to such agreements in bankruptcy reforms in 1978 and 2005. Those advantages put repurchase agreements ahead of all other liabilities in bankruptcy proceedings. Thus, "deposits" in the shadow banking system were bankruptcy-remote, which lowered risk for investors and lowered the cost of capital. The bankruptcy of an investment bank would not tie up investors' cash because they would take possession of the collateral (rather than give it back to the bank to be part of the pool of assets divided among all investors through bankruptcy) and liquidate it outside of the bankruptcy process.

The downside of the bankruptcy provisions, however, is that if investors ever lost confidence in the collateral used to "guarantee" their deposits, they would flee the shadow banking system just like ordinary retail depositors did during the Depression before deposit insurance. And that is exactly what happened in the last quarter of 2008. The increased default rates in subprime mortgages caused investors to lose confidence not only in repurchase agreements that were collateralized with subprime mortgage securities, but all repurchase agreements that had any type of securitized loans as collateral.

In response, Roe argues that all creditors should be treated identically in bankruptcy. He thus proposes eliminating the special bankruptcy provisions for repurchase agreements. This would increase market monitoring by the suppliers of deposits on investment and decrease the use of short-term funds to back longer-term investment. Gorton, on the other hand, suggests eliminating the bankruptcy provisions only for repurchase agreements that take place outside the new Narrow Funding Banks.

What makes these new regulated narrow banks any safer than the shadow banking system they replace? Gorton says that bank runs can be prevented only through deposit insurance or "safe collateral." He proposes that regulations and regulators will define safe collateral and adequate capital requirements for this new class of narrow securitized loan banks:

> If we fear that regulators are not up to the task, then we must pay them more and pay them better. We do not see any pure private-sector solutions to ensure the safety of the banking system, so the role of regulators will remain essential. To the extent that this role is found to be impossible, then we are either destined to have more crises or forced to live with a greatly constrained financial system.

But until securitized housing loans proved more risky than expected, everyone thought that such loans were good risk-free collateral, so Gorton does not appear to have found the magic elixir of financial security. Instead, he reminds us that taking risk out of investing is very hard to do.

But assume that the regulators can implement Gorton's safe-collateral regime. The "safety" provided will need to be inexpensive because, otherwise, the incentives to experiment and leave the protected system would recreate the shadow banking problem again, especially as memories from the 2008 crisis fade.

Climate Change Economics

- "Fat Tails, Thin Tails, and Climate Change Policy," by Robert S. Pindyck. September 2010. NBER #16353.

The most interesting intellectual debate in the economics of climate change is taking place between William Nordhaus (Yale), Martin Weitzman (Harvard), and Robert Pindyck (MIT). It involves technical discussions about the characteristics of the probability distributions of future temperature outcomes and the damages caused by such temperatures. This arcane discussion allegedly provides a scientific answer to the question of how much we should be willing to spend now to avoid catastrophic damages in the future.

The normal method of climate policy uncertainty evaluation (exemplified by Nordhaus's work) is Monte Carlo simulation (repeated simulation of a model using random draws from the distribution of possible variable values) of integrated economic and climate models. In such simulations, the distribution of damages from global warming are assumed to be thin-tailed — that is, the costs of damages from extremely low-probability high-temperature warming declines to zero faster than exponentially. Under this assumption, the marginal benefit of avoiding very high future temperatures (which produce large damages and reduce future consumption by large amounts) is bounded, finite, and small.

In a series of papers, Weitzman asks what if the distribution of damages is fat-tailed? That is, what if the damages from high global warming temperatures decline to zero more slowly than exponentially? Then, the expected marginal benefits of any incremental reduction in the probability of high-temperature events would be infinite. The conclusion that follows is that we should devote all our income to preventing climate change and its possible catastrophic results.

Now this is an absurd result, which Weitzman concedes. But he proposes more modestly that standard expected value cost-benefit analysis is misleading and undervalues the probability of, and benefits from, preventing extreme outcomes.

Pindyck argues that Weitzman's proposal still leaves us with a problem. Suppose we could pay 10 percent of current income for an insurance policy against extreme climate change outcomes. Weitzman implies that we should buy it because it certainly is less than the 100 percent of income demanded by his mathematical analysis. But that is true only if there are no other competing catastrophes. But nuclear war, a viral pandemic, and other equivalent events compete for our preventing-catastrophes budget. And if we are willing to pay 10 percent of our income to prevent each of them and there are ten such disasters, then we have once again reached the absurd result of using all our income to prevent catastrophes. So for Pindyck, we have come full-circle back to expected value cost-benefit analysis.

Financial Executive Compensation

- "Bank CEO Incentives and the Credit Crisis," by Rüdiger Fahlenbrach and Rene M. Stulz. August 2010. SSRN #1439859.
- "Executive Compensation and Corporate Governance in Financial Firms: The Case for Convertible Equity-Based Pay," by Jeffrey N. Gordon. July 2010. SSRN #1633906.
- "Pay for Banker Performance: Structuring Executive Compensation for Risk Regulation," by Frederick Tung. July 2010. SSRN #1647025.

What role did the incentives provided by the compensation of financial executives play in the financial crisis? Rene Stulz has demonstrated that the more equity in an executive's pay, the worse the subsequent performance of the financial institution. The larger the stock exposure of a chief executive officer in 2006, the worse the subsequent performance of the institution in 2007 and 2008. This evidence certainly contradicts the commonly held view that bank CEOs led us off a cliff to enrich themselves and their shareholders. But the evidence is consistent with the view that the more incentivized a CEO was to take shareholder interests into account, the worse the results for those shareholders, which would seem to contradict much modern compensation theory.

Recent papers by Jeffrey Gordon of Columbia Law School and Frederick Tung of Boston University Law School argue that equity compensation is just fine for non-financial firms because such firms do not pose a systemic threat to the rest of the economy. (The political system did not have the courage to test that theory in the case of General Motors.) But it is not efficient for financial institutions whose failure induces investors to lose confidence indiscriminately in other financial institutions.

They argue that the problem arises because executives of corporations are not diversified investors. Instead, their wealth is overwhelmingly invested in the firm they manage. Thus, unlike diversified investors who face systemic risk, executives do not really face correct incentives if their decisions have large spillover effects on all other assets in the economy, because they do not own any of those assets. Such executives win greatly if their bets are profitable but they do not suffer as much as diversified shareholders if their bets fail and have systemic consequences for the entire economy.

A second and related incentive problem arises when new capital must be raised to allow a financial firm to survive the reduction in asset values that follows a bad investment strategy such as subprime real estate loans. Non-diversified financial executives face too little incentive to secure new equity for their firms during financial stress because the infusion of new equity would disproportionately reduce their wealth relative to the wealth of an outside diversified shareholder.

Gordon proposes that the equity portion of executive pay be converted to subordinated debt automatically (with a haircut — a specified percentage penalty) if certain contractually specified events occur (e.g., debt ratings downgrades or stock price declines). He argues this would end excessive risk-taking at the very time when an institution needs less risk-taking and survival is important for the economy. Tung proposes that subordinated debt be a continuous component of financial executive pay.

The choice between the two proposals is directly analogous to the discussion in the previous section of equity versus catastrophe bonds, only in reverse — when to switch from equity to debt rather than debt to equity. That is, should the incentives arising from debt ownership be continuous or occur only during times of financial stress? If we can discover optimal switching rules, than switching would seem better than continuous debt.

Bank Capital Requirements

- "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity Is *Not* Expensive," by Anat Admati, Peter DeMarzo, Martin Hellwig, and Paul Pfleiderer. September 2010. SSRN #1669704.

Following financial crises, one of the recommended policy responses is to promote banks' reliance on equity capital, instead of debt, so that shareholders absorb losses when future shocks occur. But financial institutions are often reluctant to increase their equity capital. They argue that it acts like a tax on lending and thus will reduce it. They also argue that it sends the market a negative signal about banks' safety and soundness and thus may catalyze a negative confidence spiral, the exact opposite of the intended result. And bankers often argue that banks should be highly leveraged because equity capital is "expensive."

Those and other components of the conventional wisdom about the appropriate role of bank equity capital are strongly critiqued in a recent paper by Anat Admati of the Stanford Business School and her colleagues. Their basic argument is that more equity is a cure for every problem in financial institutions.

They argue that banks have so much debt and so little equity because of the tax deductibility of debt interest (and the non-deductibility of dividend payouts to equity holders) in the corporate tax code rather than any inherent feature of lending. In their view, capital requirements are simply an administrative attempt to offset the bad capital-structure incentives created by the debt tax subsidy.

Many believe that more capital reduces returns in banking. While that is true during good times, the extra capital will allow the bank to survive bad times and thus the risk-adjusted return may actually increase with more capital.

The conventional wisdom in financial economics is that more equity rather than debt in financial institutions' capital structures leads to excessive risk-taking by bank managers. In the conventional view, the predominant role of short-term debt in financial institutions (the short-term repurchase agreements at the heart of the shadow banking system, for example) is to constrain the investment practices of bank managers — if they become reckless, investors will go elsewhere. But the manner is which the discipline of debt manifests itself is a bank run, which creates such large collateral damage that political systems do not let runs occur, thus undermining the disciplinary effects of short-term debt. In fact, Gorton argues that the role of AAA-rated collateral in short-term repurchase agreements was to be informationally insensitive — that is, investment that no one had to think about. And something no one thinks about cannot discipline the market.

The currently faddish cure for the troubles created by short-term debt in the capital structure of financial institutions is catastrophe bonds — a hybrid combining characteristics of debt and equity. Catastrophe bonds pay interest like conventional bonds during normal times, but convert to equity during contractually specified stressful times like those experienced during the fall of 2008. Admati and her coauthors argue that catastrophe bonds are not a unique cure and are favored by most analysts because of the tax-deductible interest. Rather than catastrophe bonds, the authors argue that a new kind of equity with requirements on periodic payouts (dividends are mandatory rather than discretionary) to prevent managerial shirking should replace debt in the capital structure debt of financial institutions.

While the paper offers an important corrective to the conventional positive appraisal of debt and negative views toward equity in financial institutions, it does not address an important benefit of catastrophe bonds: their countercyclical nature. During good times, financial institutions have too much capital and during bad times they do not have enough. The paper argues correctly against the conventional view that additional equity is a drag on returns because such a view applies only to the good times when the cushion is not necessary but ignores the stressful times when the cushion allows survival. But the logical extension of this insight is that their prescription of more equity capital all the time would not be an efficient solution to this problem. Instead, catastrophe bonds that convert to equity exactly when you need it would seem to be preferable. R

Regulation was first published in July 1977 "because the extension of regulation is piecemeal, the sources and targets diverse, the language complex and often opaque, and the volume overwhelming." Regulation is devoted to analyzing the implications of government regulatory policy and its effects on our public and private endeavors.