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March 5, 2019

Chairman Bobby L. Rush and Ranking Member Fred Upton
House Committee on Energy and Commerce
Subcommittee on Energy
2125 Rayburn House Office Building
Washington, DC 20515

RE: Written submission for the record by Brian Mannix¹ for the hearing, *Wasted Energy: DOE's Inaction on Efficiency Standards and Its Impact on Consumers and the Climate*.

Dear Chairman Rush and Ranking Member Upton:

Let me first note with sadness the passing of former Committee Chairman John Dingell, and respectfully acknowledge his long service to this committee, to his constituents, and to our country. Forty years ago as a young economic analyst – first at the newly formed Department of Energy, and later at the now defunct Council on Wage and Price Stability – I was tasked with answering letters bearing Chairman Dingell's signature, demanding to know what was holding up DOE's overdue Appliance Efficiency Standards. The answer is still relevant today.

¹ Brian F. Mannix is a Research Professor at the GW Regulatory Studies Center. This submission reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or The George Washington University. The Center's policy on research integrity is available at: <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

DOE's initial effort to conduct a regulatory analysis of the proposed appliance standards was extensive, and in 1980 it was selected for review by President Carter's interagency Regulatory Analysis Review Group (RARG). As detailed in the attached article,² the RARG concluded that mandatory efficiency standards were not economically justified.

In the course of our review of DOE's analysis, we have identified several assumptions and methodologies that appear unrealistic, unduly pessimistic about the workings of the market or of labelling, unduly optimistic about the effect of mandatory standards, or simply undocumented or unclear.

... DOE's analysis of the net benefits of the standards appears to have exaggerated them, particularly in comparison to the benefits of labels. We suggest that this analysis be redone with more realistic and cautious assumptions and with lower standards, ... If, as a result, a particular standard does not appear to offer significant net benefits beyond those available from labelling, we recommend that DOE find, as it has the power to do, that such a standard is not justified.³

Two months after the RARG issued its report, in November of 1980, Chairman Dingell wrote to ask why DOE's final standards had not yet appeared. I was at the Council on Wage and Price Stability, which served as staff to the RARG, and which was part of the Executive Office of the President – then in the midst of a presidential transition. For direction, I called the office of another member of the Committee, David Stockman. President-elect Reagan had already designated Mr. Stockman as his nominee to be Director of the Office of Management and Budget, which included the Office of Information and Regulatory Affairs (OIRA), newly created by the Paperwork Reduction Act of 1980. I was told to keep the standards on hold, and that Mr. Stockman and Chairman Dingell would be flying back to Michigan together and would discuss what to do with them.

After the Carter-Reagan transition, the Energy Department tried again to issue the standards, notwithstanding the negative review by the Carter administration's RARG. They appealed to now OMB Director Stockman.

Putting aside the economic merits or lack thereof, the DOE argued that Congress surely had not intended to pass a statute that would produce no standards. Stockman was unmoved, and pointed out that a bill mandating standards had

² Brian F. Mannix and Susan E. Dudley, "The Limits of Irrationality as a Rationale for Regulation," *Journal of Policy Analysis and Management*, Vol. 34 Issue 3, 2015, 705-712.

³ Regulatory Analysis Review Group (RARG). (1980). *Department of Energy's proposed efficiency standards for consumer appliances, Report of the Regulatory Analysis Review Group*, September 15, 1980. Retrieved from <http://cwps.mercatus.org/wpcontent/uploads/161501.pdf>.

failed multiple times in the House Committee on Energy and Commerce, of which he had been a member. Finally the bill passed, with his vote, when the “economically justified” condition was inserted. By his reading, that language meant that the statute would prohibit the DOE from ever issuing a standard for any appliance. In 1982 the DOE proposed, and then finalized, a finding that appliance efficiency standards were not economically justified.

Five years later, Senator Phil Gramm [also a former member of the House Energy and Commerce Committee] introduced the National Appliance Energy Conservation Act, which mandated energy efficiency standards for a number of appliances. After intense lobbying by the appliance industry in favor of the bill, it passed with strong support, but not with support from Senator Gramm, an economist. Immediately after introducing the bill, he announced that he intended to vote against it, and urged his colleagues to do the same.

Senator Gramm pointed out that the legislation was anticompetitive, and that its real motivation was to suppress competition and to force consumers to buy more expensive appliances than they wanted. He knew that, with industry support, this anti-consumer bill was going to pass despite his opposition; he also knew that Ronald Reagan, at this point in his presidency, was reluctant to use a veto on the bill.⁴

The distinguishing feature of the amended law was the requirement that DOE issue efficiency standards, even if they were *not* economically justified and did *not* benefit consumers. Nonetheless, in order to make their standards look good, the Department proceeded to publish misleading economic analyses based on assumptions that had been discredited by the RARG in 1980. Among the gimmicks that DOE has used over the years to inflate the benefits of energy efficiency standards are obviously false assumptions, such as: (1) all households are the same size, (2) all states have exactly the same climate, and (3) the “usage elasticity” of appliances is zero – i.e., consumers do not respond at all to the cost of operating appliances.

To its credit, DOE has recently issued a proposed rule⁵ to improve the process by which energy efficiency standards are developed. The Department is under continuous pressure from industry lobbyists/salesmen to restrict consumer choice and raise the cost of appliances, and its recent efforts appear to be directed at giving greater weight to consumer welfare. My recommendation to the subcommittee is to encourage DOE to base its decisions on a truthful balancing of benefits and costs, in which climate benefits would certainly be counted, but

⁴ Senator Gramm’s wife, economist Wendy Gramm, was then Administrator of OIRA.

⁵ See <https://www.federalregister.gov/documents/2019/02/13/2019-01854/energy-conservation-program-for-appliance-standards-proposed-procedures-for-use-in-new-or-revised>

estimated consumer benefits would accurately reflect real consumer preferences rather than the up-selling preferences of appliance makers. It would also be helpful to remove from the statute the endless cycle of mandatory deadlines, and to restore the original requirement that all standards must be economically justified.

The attached article goes into more detail on the reasoning behind appliance efficiency standards, and some of the economic subterfuge that has been used to promote them.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brian F. Mannix", with a stylized flourish at the end.

Brian F. Mannix

THE LIMITS OF IRRATIONALITY AS A RATIONALE FOR REGULATION

Brian F. Mannix and Susan E. Dudley

If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. In framing a government which is to be administered by men over men, the great difficulty lies in this: you must first enable the government to control the governed; and in the next place oblige it to control itself.

– Federalist 51

James Madison was speaking of the structural checks on governmental power when he wrote those words, but it is worth recalling his advice when we contemplate the role of benefit-cost analysis as a check on the unconstrained exercise of the

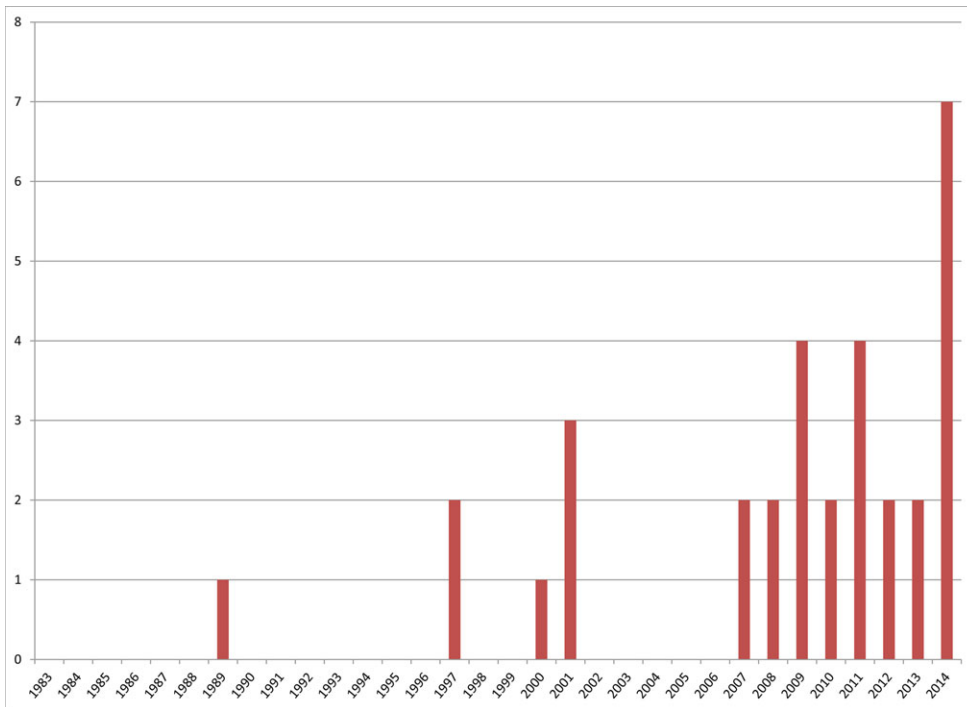


Figure 1. Number of DOE Energy Efficiency Regulations Issued by Year.

government's regulatory powers, and the implications of the reality that people's behavior, both in and out of government, sometimes falls short of what we might incorporate into an economic model or hope for in a perfect world.

Recent years have seen a rapid growth in the number of federal regulations intended to reduce Americans' consumption of oil, coal, electricity, or energy generally (U.S. Office of Management and Budget [OMB], 1997). These often take the form of standards that prescribe a minimum energy efficiency for commercial and household appliances and vehicles; Figure 1 shows the number of appliance efficiency standards issued by the Department of Energy (DOE) since 1983, for example. In setting these standards, the responsible regulatory agencies (chiefly the DOE, the Department of Transportation [DOT], and the Environmental Protection Agency [EPA]) have advanced fantastic claims about the magnitude of private benefits these rules will yield. For example, according to the EPA and DOT's most recent fuel economy standards for vehicles produced in 2017 and beyond,

[a]lthough the agencies estimate that technologies used to meet the standards will add, on average, about \$1800 to the cost of a new light duty vehicle in MY [model year] 2025, consumers who drive their MY 2025 vehicle for its entire lifetime will save, on average, \$5700 to \$7400 (7 and 3 percent discount rates, respectively) in fuel, for a net lifetime savings of \$3400 to \$5000.

Nationally, they estimate the standards will impose net present value costs of between \$144 billion and \$150 billion, but yield private fuel savings to vehicle owners of between \$364 billion and \$475 billion. The DOE makes similar claims with respect to the net private benefits of its appliance regulations, as shown in Figure 2.

In this context, we use "private benefits" to refer to the dollar-denominated value of future energy savings that result from regulatory restrictions on what consumers

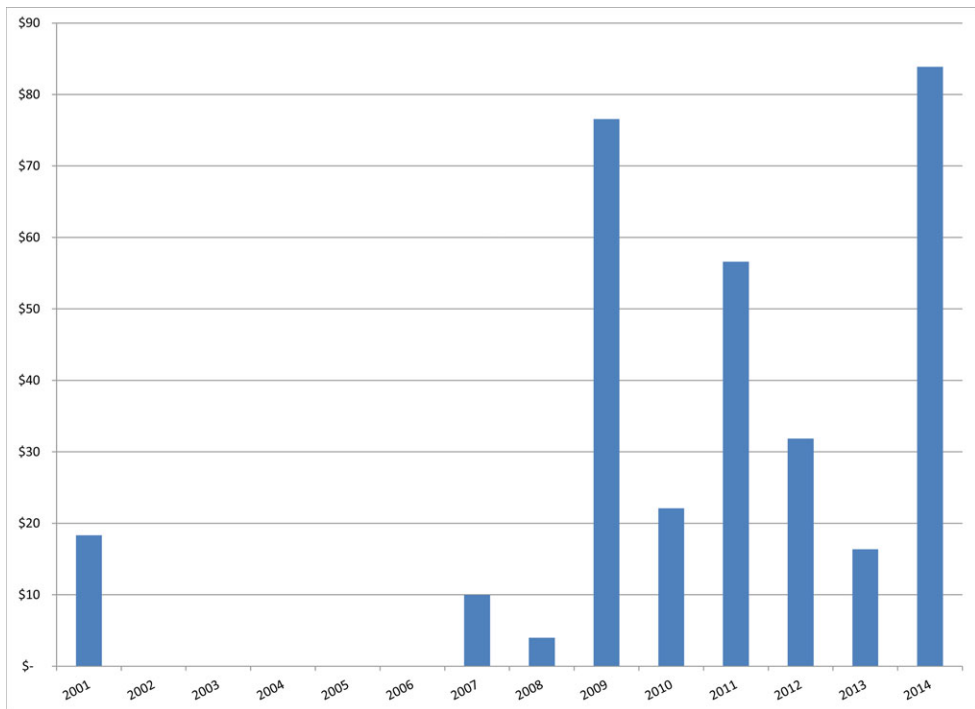


Figure 2. DOE's Estimated Net Present Value of Private Benefits of Energy Efficiency Regulations Issued by Year.

and businesses may buy. These private benefits, representing consumers' imputed willingness to pay for the personal benefit they derive from the rules, are typically larger than the public benefits, and much larger than the costs that agencies ascribe to those same rules (Dudley, 2012). And herein lies a puzzle, sometimes called the "energy paradox" (Jaffe & Stavins, 1994). How much is the average consumer willing to pay in order to be prohibited from buying, for example, an incandescent light bulb? After all, prior to the regulation, *not* buying the incandescent bulb is free. Why would anyone pay to have that choice imposed on them? As one recent paper noted:

How can it be that consumers are leaving billions of potential economic gains on the table by not buying the most energy-efficient cars, clothes dryers, air conditioners, and light bulbs?... If the savings are this great, why is it that a very basic informational approach cannot remedy this seemingly stunning example of completely irrational behavior? It should be quite simple to rectify decisions that are this flawed. Rather than accept the implications that consumers and firms are acting so starkly against their economic interest, a more plausible explanation is that there is something incorrect in the assumptions being made in the regulatory impact analyses (Gayer & Viscusi, 2013, p. 263).

What might those incorrect assumptions be? Regulators might be underestimating the costs experienced by consumers, including the lost value consumers placed on various desirable attributes of light bulbs, washing machines, and automobiles. They might be overly optimistic about the energy savings that will be realized, or the value that consumers place on those savings. Or they might be using an artificially low discount rate that does not account accurately for consumers' opportunity costs. When evaluating government expenditures, the typical practice is to use a low,

risk-free, discount rate because no single expenditure is likely to be more than a small part of the government's budget. But this is not true of automobiles and appliances purchased by consumers, who have budget constraints and an aversion to risks, and thus experience real costs that do not get captured by an artificially low discount rate (Miller, 2015).

None of this is to say that private benefits do not belong in a benefit-cost analysis, which is supposed to be a complete accounting of all the welfare effects of a policy decision. The paradox is that we know the value of private benefits and costs only by observing the choices—the revealed preferences—of consumers in the marketplace. This principle lies at the core of benefit-cost analysis, and indeed all of microeconomics. If well-informed consumers do not buy the more expensive—but more energy-efficient—model of washing machine, then we know that the private costs *must* exceed the private benefits as experienced by the consumer. And yet we see regulatory impact analyses that make the opposite claim (see Figure 2).

Note that the questions raised by private benefits have nothing to do with the public objectives of a regulation, and the market failures that may give rise to the need therefor. Let us stipulate up front that there are legitimate public benefits that may flow from policies that reduce energy use, and these can be addressed by doing a standard analysis of classical market failures. Information asymmetry is an example of such a market failure, and we have long had fuel economy and energy-efficiency labels on cars and appliances to remedy it. This is a reasonable policy “nudge,” and ought to be sufficient to the task.

An analysis of market power and competition can also be relevant to the question of reducing energy use. Soon after OPEC began exercising market power over world oil prices, for example, analysts pointed out that the United States could respond by acting as a monopsonist, reducing its consumption and thereby driving prices lower (National Academy of Sciences, 2002, p. 20). This may or may not be a good strategy. Over the years, OPEC members have seen their market power decline steadily as they lose market share to noncartel members. Similarly, self-imposed limits on U.S. oil consumption would put our economy at a disadvantage relative to competing countries, which also benefit from the price decline but are not similarly conserving. Nonetheless, the argument for a “monopsony premium” for oil is economically plausible, representing an externality—a benefit of reduced oil use that accrues to the public generally and that will not be taken into account in private decisions.

Other types of externality might be used to justify mandatory action. Analysts have argued for an energy security premium associated with oil use, to account for the public expenditures involved in trying to maintain stability in regions, like the Middle East, that supply the world market for crude oil (Brown & Huntington, 2010). A variant on this argument is that the objective is not so much to cover our security costs, as it is to reduce cash flows to oil exporting countries that use the money to support terrorism or to develop weapons of mass destruction. Whatever the merits of these arguments, it is at least plausible that U.S. national security suffers when oil consumption is high, and that a national security premium should be used when calculating the benefits of energy-saving policies.

More recently, reduction of carbon emissions in order to improve the climate has been advanced as a motivation for energy conservation programs. Elsewhere we have endorsed the Obama administration's attempt to ground energy policies on an analysis of the Social Cost of Carbon (SCC), even while acknowledging the contentious science and economics behind its calculation and its application (Dudley & Mannix, 2014).

Even when fully loaded with premiums for monopsony, energy security, and climate externalities, however, the largest component of future energy savings is, by far, the private value to the energy consumer (Gayer & Viscusi, 2013). Typically agencies will justify this by referring to “lack of consumer information and/or

information processing capability about energy efficiency opportunities” (U.S. DOE, 2014).

In recent years some authors have tried to resolve the paradox of private benefits by referring to the literature of behavioral economics, which shows that consumers are not always as rational as economic models typically assume (Madrian, 2014). But the debate over consumer rationality and the treatment of private regulatory benefits is much older. The Energy Policy and Conservation Act of 1975 (EPCA) authorized federal appliance efficiency standards, but only if efficiency labels had first been given time to work. As part of Jimmy Carter’s 1977 National Energy Plan, Congress removed this condition. The newly created DOE proceeded to draw up proposed standards and a supporting analysis that relied heavily on private benefits to justify them, citing consumer myopia as a motivation. These standards were reviewed by President Carter’s Regulatory Analysis Review Group (RARG)¹ (1980).

The RARG found the DOE’s explanation of consumer short sightedness unpersuasive. “While consumers still might be ‘myopic’ in considering future energy savings, the case is not nearly so clear-cut as it once might have seemed” (RARG, 1980, p. 5). It did, however, find evidence that the DOE’s own decisionmaking might be the result of bias:

In the course of our review of DOE’s analysis, we have identified several assumptions and methodologies that appear unrealistic, unduly pessimistic about the workings of the market or of labelling, unduly optimistic about the effect of mandatory standards, or simply undocumented or unclear (RARG, 1980, p. 7).

Finding that “the net benefits predicted for the proposed standards appear to derive largely from assumptions in the base case of extremely irrational behavior on the part of consumers,” RARG recommended that, in the absence of more compelling evidence of a continuing market failure, the DOE find that the standard was not justified.

... DOE’s analysis of the net benefits of the standards appears to have exaggerated them, particularly in comparison to the benefits of labels. We suggest that this analysis be redone with more realistic and cautious assumptions and with lower standards, as suggested above. If, as a result, a particular standard does not appear to offer significant net benefits beyond those available from labelling, we recommend that DOE find, as it has the power to do, that such a standard is not justified (RARG, 1980, p. 7).

Despite the negative review by the Carter White House, the DOE attempted to issue final appliance efficiency standards in January 1981. The Reagan administration agreed with its predecessor, however, and instructed the DOE to issue a “no-standard standard,” as the statute provided and the RARG had recommended. The DOE then appealed to the newly appointed director of OMB, David Stockman. Putting aside the economic merits or lack thereof, the DOE argued that Congress surely had not intended to pass a statute that would produce no standards. Stockman was unmoved, and pointed out that a bill mandating standards had failed multiple times in the House Committee on Energy and Commerce, of which he had been a member. Finally the bill passed, with his vote, when the “economically justified” condition was inserted. By his reading, that language meant that the statute would prohibit the DOE from ever issuing a standard for any appliance.² In 1982 the DOE proposed, and then finalized, a finding that appliance efficiency standards were not economically justified.

¹ Most executive branch regulatory agencies were RARG members. In 1980 the Executive Committee of the RARG consisted of the Council of Economic Advisors, the Office of Management and Budget, the Department of Labor, and the Environmental Protection Agency. RARG procedures and membership are summarized in OMB (1997).

² One of us, Mannix, attended this meeting as a member of OMB staff.

Five years later, Senator Phil Gramm introduced the National Appliance Energy Conservation Act, which mandated energy efficiency standards for a number of appliances. After intense lobbying by the appliance industry in *favor* of the bill, it passed with strong support, but not with support from Senator Gramm, an economist. Immediately after introducing the bill, he announced that he intended to vote against it, and urged his colleagues to do the same. He had asked to be permitted to introduce this industry-sponsored bill in order to explain on the floor of the Senate why it was profoundly anticonsumer. What propelled its passage? As the RARG had argued in its 1980 review, appliance efficiency standards were dangerously anticompetitive. By 1987 some of the larger manufacturers had made substantial investments in more energy-efficient models, but were having trouble convincing consumers to buy them. Mandatory efficiency standards would override consumers' preferences, allow manufacturers to charge a price premium for the newer models, and exclude less-expensive (especially imported) appliances from the market. Intense lobbying by the industry was able to override the Carter and Reagan administrations defense of consumer choice.

A similar "Bootleggers and Baptists" (Smith & Yandle, 2014) story can be told about the CAFE standards for automobiles. There are sound, market failure based, arguments that can be used to make a case for mandatory fuel-economy standards, and there are also economically unsound "private benefit" ones. The National Academy of Sciences (NAS, 2002) was critical of arguments that the private energy savings from CAFE standards could make individual consumers better off. But CAFE standards persist, because there is also an anticompetitive, anticonsumer explanation for why they enjoy support. In 2007 Congress changed the way we calculate the fuel efficiency of automobiles, giving extra credit to vehicles with a large "footprint." This footprint method is intended to favor U.S. manufacturers; but, by encouraging consumers to buy larger cars, it makes the standards much less effective in achieving the fuel savings that supposedly motivate them.

Given the tendency of regulatory programs to be hijacked by private interests, even while being sold as overwhelmingly in the public interest, we need to be conscientious in applying the principles of economics to the analysis of regulations, in order to be sure that regulations are doing more good than harm. Economists have developed the Kaldor-Hicks criterion for benefit-cost analysis: any policy change that produces "losers," should also produce "winners" who would be willing to pay a sufficient amount to compensate the losers.

But these gains and losses are always meant to be measures of individual welfare changes, where each affected individual is presumed to be the judge of his or her own welfare. No one else is privy to the complex mix of individual preferences and circumstances that cause us to make the choices that we do. Economists can observe consumer behavior and make inferences about their preferences, but these need to be empirically grounded—not imposed by assumption or by rule.

In the context of positive economics, this notion of consumer sovereignty is an epistemological principle, adopted to make economics a rigorous science. In the context of weighing the benefits and costs of regulatory action, that epistemological principle still applies. But there is an additional reason to be deferential to consumers about their own welfare, because we are no longer just engaging in positive science. BCA is used to make recommendations to policymakers, and that normative context is important. An economist who builds a predictive model that does not successfully forecast consumer behavior will go back to the drawing board to try to make a better model. A BCA analyst who builds such a model will be tempted to conclude that it is consumers who are wrong, and recommend that regulation be used to force consumers to more closely conform to his model.

This is not necessarily done in bad faith; even a diligent and well-meaning central planner will suffer from the myopia inherent in the "planner's paradox" (Mannix,

2003). But we should be very skeptical of regulators who cannot justify the use of coercive regulation without claiming that consumers are irrational, and that the regulator is a more faithful agent of the consumers' interests than they themselves are.

The insights of behavioral economics are certainly interesting as positive research. And they are useful in counseling people to make better decisions, including by designing government programs that provide information or present options in an accessible way. But "choice architecture" cannot produce benefits by destroying choice. Nothing in behavioral economics would allow us to assume that regulators, alone, make perfect decisions. As Gayer and Viscusi observe:

Perhaps the main failure of rationality is that of the regulators themselves. Agency officials who have been given a specific substantive mission have a tendency to focus on these concerns to the exclusion of all others. Thus, fuel efficiency and energy efficiency matter, but nothing else does. If other attributes matter, it is assumed they either are irrelevant or will be included at no additional cost in the post-regulation products. In effect, government officials act as if they are guided by a single mission myopia that leads to the exclusion of all concerns other than their agency's mandate (Gayer & Viscusi, 2013, p. 263).

Allowing regulators to control consumers "for their own good"—based on some deficiency in the consumers themselves rather than any failure in the marketplace—is to abandon any serious attempt to keep regulatory policy grounded in any objective notion of the public good.

The chief danger is that regulatory agencies will take the irrationality of consumers as sufficient reason, by itself, to intervene in markets, and will give primacy to the government's own judgment of what is good for us. Ultimately, we insist that our regulators start from a presumption of rationality for the same reason that we insist that our criminal courts start from a presumption of innocence: not because the assumption is necessarily true, but because a government that proceeds from the opposite assumption is inevitably tyrannical (Mannix, 2010).

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