Controlling Medicare with Lessons from Endowment Effect Experiments

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CONTROLLING MEDICARE WITH LESSONS FROM ENDOWMENT EFFECT EXPERIMENTS

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I. THE PROBLEM

From 1968 to 2010, Medicare expenditures steadily climbed from 0.7% of Gross Domestic Product to 3.6%. The percentage declined in only three of those forty-two years. Medicare's Board of Trustees estimates that the percentage will continue to grow into the foreseeable future. This article explains how a powerful cognitive bias, the endowment effect, prevents the government from reducing expenditures even when the money could be put to better use elsewhere. This article then uses experimental findings about the endowment effect to craft solutions to the problem.

A. The Endowment Effect

The endowment effect is the phenomenon whereby people value something more when they own it than when they do not own it. Numerous psychological experiments have observed a large differential between willingness to pay for an entitlement ("WTP") and willingness to accept compensation for that entitlement once owned ("WTA"). For example, in an experiment in which half of the subjects were given mugs and half were not, the median WTA was $5.25 but the median WTP was only $2.50. This differential occurs

2. Id.
5. See, e.g., Russell Korobkin, The Endowment Effect and Legal Analysis, 97 NW. U.L. REV. 1227, 1228 (2003) (describing "the empirically observed phenomenon that people will often demand a higher price to sell a good that they possess than they would pay for the same good if they did not possess it at present.").
even when intangible entitlements are at issue. What turns the differential from an interesting anomaly into an economic obstruction is the way that it impedes efficient transactions. Economists would predict that 50% of the mugs in the above experiment would be sold because the laws of probability indicate that 50% of the people who randomly received mugs initially valued them less than the average subject. However, in practice only 10.2% of mugs were sold. Five times as many people would have received something that they value more if researchers had employed a method for circumventing the endowment effect.

Many legal scholars now take the existence of the endowment effect into account when predicting behavior. This is a good first step, but we need to move beyond merely acknowledging the existence of the endowment effect to exploring the ways that it varies depending on context. This Article will describe seven nuanced findings of behavioral experiments and then employ those findings to support a variety of proposals for mitigating the endowment effect’s impact on Medicare.

8. Kahneman et al., supra note 6, at 196.
9. Id. (stating that of the 88 distributed mugs, only 9 were traded).
10. See, e.g., Daniel Kahneman, Jack Knetsch, & Richard Thaler, Experimental Tests of the Endowment Effect and the Coase Theorem, 98 J. POL. ECON. 1325, 1339–41 (1990) (arguing that the Coase theorem is flawed because the endowment effect will inhibit transactions). The Coase theorem states that if transaction costs are zero, then parties will negotiate to reach an efficient distribution of rights regardless of the initial distribution. Coase himself pointed out that it is unrealistic to assume zero transaction costs, but he did not address the theorem’s failure to take into account the endowment effect. See Victoria Nourse & Gregory Shaffer, Varieties of a New Legal Realism: Can a New World Order Prompt a New Legal Theory?, 95 CORNELL L. REV. 61, 67 n.12 (2009).
11. See Ward, supra note 4, at 210 (warning that application of the endowment effect requires nuance and that legal scholars often fail to understand that the endowment effect is context dependent).
B. The Problem that the Endowment Effect Causes for Medicare

The endowment effect has a strong impact on health care entitlements.\textsuperscript{12} A review of studies that compared WTA to WTP found that subjects required 10.06 times more to give up a healthcare entitlement than they were willing to pay for it.\textsuperscript{13} To put the magnitude of this effect into context, consider that this suggests beneficiaries would rather hold on to their Medicare benefits than accept $120,000 per year, per Medicare beneficiary, even though they would have only paid $12,000 for those same benefits before they obtained them.\textsuperscript{14} The strength of the endowment effect's attachment to healthcare should concern policymakers because of the massive amounts spent on Medicare. Medicare spending was $565.3 billion in 2011, and the Congressional Budget Office estimates that spending will continue to grow at an average of 6.3\% per year.\textsuperscript{15}

Much of the policy opposition to Medicare focuses on the fact that benefits are a one-way ratchet due to insurmountable political opposition to taking away a benefit once bestowed.\textsuperscript{16} This one-way ratchet, which is anathema to budgetary constraints and experimentation, is imposed by the endowment effect.\textsuperscript{17}

\begin{itemize}
\item \textsuperscript{12} Herbert Hovenkamp, \textit{Legal Policy and the Endowment Effect}, 20 J. LEGAL STUD. 225, 239 (1991) (attributing the heavy involvement of charitable institutions in health care to the large differential between willingness to pay and willingness to accept). Posner posited, for example, that the endowment effect explains why the value of maternity benefits increases after state laws confer the right to maternity benefits. Robert Scharff & Francisco Partisi, \textit{Role of Status Quo Bias and Bayesian Learning in the Creation of New Legal Rights}, 3 J.L. ECON. & POL'Y 25, 29 (2006).
\item \textsuperscript{13} Horowitz & McConnell, \textit{supra note 7}, at 433.
\item \textsuperscript{14} NAT'L COMM. TO PRESERVE SOCIAL SECURITY AND MEDICARE, FACTS ABOUT MEDICARE, http://www.ncpssm.org/medicare/fastfactm/ (last visited Feb. 26, 2013) (stating that there were 47.5 million Medicare beneficiaries in 2010).
\item \textsuperscript{16} See, e.g., David A. Hyman, \textit{Medicare Meets Mephistopheles}, 60 WASH. & LEE L. REV. 1165, 1175 (2003) ("The politics of Medicare created a one-way ratchet.").
\item \textsuperscript{17} See Clayton P. Gillette, \textit{Lock-In Effects in Law and Norms}, 78 B.U. L. REV. 813, 827–28 (1998) (arguing that the endowment effect will cause those benefitting from legislation to invest more in keeping that benefit than those with an equally strong reason to remove the benefit).
\end{itemize}
opposition to rescinding Medicare benefits can become fiercely emotional, as seen when an elderly man jumped atop the hood of a congressman’s fleeing car to protest the way that the Catastrophic Coverage Act threatened his Medicare benefits.¹⁸

The endowment effect causes three crucial problems for Medicare. First, it prevents the government from allocating money to where it would create the most value.¹⁹ For example, even if citizens later decide that each dollar spent on education is twice as beneficial as a dollar spent on Medicare, they would nevertheless oppose taking away dollars from existing Medicare benefits to spend on education if they experienced an endowment effect of the magnitude experienced in the mug experiments mentioned above.²⁰ The second problem is that the endowment effect inhibits experimentation. Medicare has had some success with adding new programs, such as Part C,²¹ which allows for the use of private insurers to provide coverage traditionally supplied by the government.²² However, innovations are few and far between because the government cannot experiment without running the risk that the endowment effect will grow too strong before a new program reveals its failings, forever entrenching a suboptimal program. The third problem is that the endowment effect prevents the government from staying within a budget. Medicare expenditures are tied to factors that change unpredictably and the endowment effect reduces the ability to adapt to changes. Medicare is an “entitlement” program, meaning that it guarantees certain treatments or a percentage of the cost of certain treatments rather than guaranteeing a set amount of money.²³ This makes budget control difficult because the costs of

¹⁹. See Hovenkamp, supra note 12, at 230 (using economic theory to show that when endowment effects exist, social wealth might not reach its full potential even though the market has reached a Pareto-optimal outcome).
²⁰. Kahneman et al., supra note 6, at 196 (reporting a WTP only 48% as large as WTA).
²³. See Marilyn Moon, Future of Medicare as an Entitlement Program, 12 ELDER L.J. 225, 226 (2004) (explaining that many policy makers have called
any treatment can rise unpredictably. For example, between 2001 and 2002 the cost to Medicare of computed tomography ("CT") and magnetic resonance imaging ("MRI") scans jumped almost 20%.24 Another unpredictable aspect of Medicare is that expenditures are tied to demographic changes, such as the baby boom, because age determines eligibility.25

This Article argues that by utilizing behavioral studies of the endowment effect, we can design government programs that can be reduced or expanded as needed without excessive opposition.

II. EXPERIMENTAL FINDINGS

The perception of an entitlement and the context of a transaction affect the magnitude of the endowment effect.26 This section describes seven experimental findings27 that can reduce the endowment effect, and the next section uses these findings to craft a range of solutions to the endowment effect problem plaguing the current Medicare system.

The first pertinent finding is the endowment effect attaches less strongly to entitlements that are not protectable with an injunction. This was demonstrated in experiments comparing liability rules to property rules. A liability rule is a rule under which entitlement holders can be forced to give up their entitlement for a specified dollar

Medicare an unsustainable entitlement program because it guarantees benefits to all who are eligible).


26. Korobkin, supra note 5, at 1229 ("The existence and extent of the endowment effect is context-dependent.").

27. While many of the endowment effect experiments that will be described in this article used students exclusively as subjects, that should not be a concern because a survey of forty-five studies found that students do not experience a greater endowment effect than the general public. See Horowitz & McConnell, supra note 7, at 427.
amount. A property rule is a rule under which entitlements can only be taken with the consent of the owner. For example, the right to exclude from one’s land is protected by a property rule, meaning one can call the police to evict trespassers. On the other hand, contractual rights are usually protected by liability rules, meaning one’s only recourse upon breach is to demand monetary compensation. It is not a coincidence that people fight more fervently for their homes than their contracts. One experiment asked half of the subjects whether they would buy plants and ponds, and the other half whether they would sell the same items at a certain price. Subjects exhibited a significant endowment effect for entitlements protected by a property rule but not for entitlements protected by a liability rule. The second pertinent finding is that the endowment effect is enhanced when it is difficult to determine the exact value of the entitlement. In one experiment, no significant endowment effect attached to tokens that test subjects could redeem for a fixed amount, while a considerable endowment effect attached to tokens that subjects could redeem for a random amount. Another experiment can be interpreted to show that the endowment effect attaches more strongly to lottery tickets than to cash. In that experiment, each subject was given either a lottery

29. Id.
30. See, e.g., Boomer v. Atlantic Cement Co., 257 N.E.2d 870 (1970) (analyzing a situation in which homeowners appealed a decision giving them money damages for the pollution from a cement plant because they would only be satisfied with an injunction).
32. Id. at 1566 (explaining that other scholars have argued that there is no difference between property and liability rules, but their arguments do not have empirical evidence).
33. See id. at 29 (“The disparity between WTA and WTP is larger when the items being traded are difficult to compare.”).
35. See Jack L. Knetsch & J. A. Sinden, Willingness to Pay and Compensation Demanded: Experimental Evidence of an Unexpected Disparity in Measures of Value, 99 Q.J. ECON. 507, 517-18 (testing ninety part-time students, most of whom
ticket or two one-dollar bills. A full 86% of subjects would refuse to
give up a lottery ticket for $2 whereas only 70% of subjects would
refuse to give up $2 for a lottery ticket. This gap was not attributable
to a perception that the lottery ticket was worth more than $2 because
a separate group of subjects designated advisors rather than participants
was approximately evenly divided on whether they would advise participating subjects to exchange a ticket for $2.

The third pertinent finding is that people are less resistant to
giving up something that is characterized as a bonus rather than a
baseline. One study demonstrated that more people thought it was
unfair to raise the price of a car above list price than to reduce the
discount on a car by the same amount.\textsuperscript{36} Similarly, people were more
than twice as accepting of a decrease in wages if it was carried out by
omitting to raise wages along with inflation rather than by directly
decreasing the baseline amount of wages.\textsuperscript{37}

The fourth pertinent finding is that the endowment effect will
increase with the evolutionary salience of the item in question. The
"evolutionary salience" of an item is the connection an organism
perceives between its survival and that item. Thus, food has more
evolutionary salience than toys. One study found that chimpanzees
exhibited a stronger endowment effect towards food than toys.\textsuperscript{38} A
survey of endowment effect experiments concluded that "the
perceived necessity of an item to a person's survival contributes to the
exhibition of the endowment effect."\textsuperscript{39} This conclusion is also
supported by the fact that experiments on humans found a stronger

\textsuperscript{36} Kahneman et al., \textit{supra} note 6, at 203-04 (finding that 71% of subjects
thought it was unfair to raise the price of a car by $200 when it had been selling at
the list price whereas only 42% of subjects thought it was unfair to raise the price to
the list price when it had been selling at $200 below the list price).

\textsuperscript{37} \textit{Id.} at 204 (finding that 78% of subjects thought it was acceptable to raise
wages by only 5% after 12% inflation but only 37% thought it was acceptable to
reduce wages by 7%).

\textsuperscript{38} Owen Jones & Sarah Brosnan, \textit{Law, Biology, and Property: A New Theory
endowment effect for trades between rope and bone but finding that even though the
majority of chimpanzees preferred peanut butter to juice, only 21% of those given
juice traded it for peanut butter).

\textsuperscript{39} Ward, \textit{supra} note 4, at 213.
endowment effect for chocolate and Coke than for movie tickets and hockey tickets.\textsuperscript{40}

The fifth pertinent finding is that people experience less of an endowment effect when they assess an entitlement for its exchange value rather than its use value. To clarify, the exchange value of a pill would be the price at which others would buy it, whereas its use value would be the value of using the medical properties of the pill. This is why professional sellers do not feel an endowment effect attached to their goods. Two experiments support this fifth finding.\textsuperscript{41} The first experiment found an endowment effect when subjects were given mugs without explanation but found no endowment effect when subjects were given mugs and told that these mugs were produced by the factory of a company whose profits they will receive.\textsuperscript{42} The second experiment found that the endowment effect dwindled to statistical insignificance when subjects were encouraged to think like a merchant by involving them in repeated transactions on both the buy and sell side.\textsuperscript{43} This finding is probably responsible for the conclusion that the endowment effect is greater for public and non-market goods,\textsuperscript{44} since those goods are less often considered for their exchange value.

The sixth pertinent finding is that the endowment effect increases over time. One experiment confirmed this by giving one-fourth of subjects a mug twenty-five minutes before selling time, one-fourth of subjects a mug five minutes before selling time, and one-half of subjects no mug at selling time.\textsuperscript{45} Subjects who never received a mug were only willing to pay on average $2.75; subjects who had the mug for five minutes demanded $4.32; and subjects who had the mug for twenty-five minutes demanded $5.26.\textsuperscript{46} The solution section of this

\begin{flushright}
41. Korobkin, \textit{supra} note 5, at 1239.
42. \textit{Id.}
43. \textit{Id.} at 1239–40.
44. Horowitz & McConnell, \textit{supra} note 7, at 427.
45. Michal A. Strahilevitz & George Loewenstein, \textit{The Effects of Ownership History on the Valuation of Objects}, 25 J. CONSUMER RES. 276, 278 (1998) (performing this experiment on a class of seventy-four M.B.A. students and a class of sixty-four executive M.B.A. students).
46. \textit{Id.} at 279.
\end{flushright}
Article will discuss the consonance of this finding with academic theories about the time when legal entitlements are most vulnerable.

The seventh pertinent finding is that the endowment effect is increased more by taking possession of something than by learning that one has a legal right to it. In a novel version of the classic mug experiment, experimenters told a group of people that they now owned a mug but only let half of those people physically possess the mug. Physical possession in this experiment meant the subjects touched the mug and then set it on the desk in front of them. Those who had physical possession exhibited a significantly stronger endowment effect than those who merely learned that they were legally entitled to it.

III. METHODS FOR LESSENING THE ENDOWMENT EFFECT ATTACHED TO MEDICARE BENEFITS

The experimental findings above suggest that the endowment effect attached to Medicare benefits can be ameliorated with the following solutions, which will be discussed in order from least to most logistically difficult to implement: (1) quickly cut programs that do not meet expectations; (2) persistently call Medicare programs “pilot programs” and stress that they can be scaled back or canceled at any time; (3) conspicuously state that Medicare entitlements can be involuntarily bought back by the government in exchange for a specified amount of money; (4) roll out new programs in one state at a time; (5) turn Medicare benefits into a rebate rather than something received at the point of purchase; (6) focus attention on the exchange value of benefits by allowing people to sell unused benefits to the government.

A. Quickly Cut Programs That Do Not Meet Expectations

The government should act swiftly to scale back or eliminate programs that are not meeting expectations. This solution is based on the sixth pertinent finding, namely that a person’s willingness to
accept compensation increases the longer he or she owns something. While the experiments behind that finding involved possession of a physical object, multiple scholars have concluded that the difficulty of eliminating legal entitlements increases with time. One author created an elaborate equation demonstrating that a precedent creating plaintiffs' rights is "most vulnerable to attack soon after it is made." 49 Another author reached a similar conclusion, stating: "Regulating new entitlements is likely to generate less opposition." 50 Therefore, the government can preserve its freedom to adjust expenditures by acting swiftly. One way to facilitate swiftness would be to set acceptable performance standards for each new program before it is implemented and then automatically cut a program if it falls below those standards without extenuating circumstances.

B. Endless Pilot Program

The government should persistently call new Medicare programs "pilot programs" and stress that they offer special additional benefits that can be scaled back or canceled at any time. This would harness the third pertinent finding because pilot programs seem more like bonuses than baselines. Software developers have already begun using this tactic with what Jim Morrison, a former dean of the Carnegie Mellon School of Computer Science, calls the "endless beta." 51 "Beta" is the phase in the software development cycle where the software has been released to the public with the warning that it still needs significant tinkering. Based in part on the observation that Google had begun leaving its software in beta for years, Morrison predicted that the new trend would be for companies to keep software in beta forever so that they can more easily and frequently alter it. 52 It would be a great boon for healthcare programs if they could evolve as flexibly as computer programs.

49. Scharff & Partisi, supra note 12, at 33.
50. Korobkin, supra note 5, at 1267.
51. See Jim Morris, The Endless Beta, JIM MORRIS'S THOUGHT OF THE WEEK (OR MONTH, OR YEAR, ...), (Friday, June 2, 2006) http://jimmorris.blogspot.com/2006/06/endless-beta.html (using the phrase "endless beta" to describe software releases that never progress past the beta phase).
52. See id.
A more extreme version of an endless pilot program is to insert a sunset clause in the laws establishing entitlements. A sunset clause is text in a law that sets a termination date after which the law automatically becomes ineffective.\textsuperscript{53} The government would then have the option to reenact the law after each sunset if the program worked as desired. One article asserts that sunset clauses can undo any endowment effect by shifting the status quo.\textsuperscript{54} While sunset clauses would undoubtedly mitigate the endowment effect because, inter alia, the entitlement will not feel protected, they may not be a practical solution because they would require duplication of the immense effort needed to reach a legislative consensus.\textsuperscript{55}

\textbf{C. Buyback Provision}

The government should inform Medicare beneficiaries that the government has the power to buy back their “bonus” benefits involuntarily for a specified amount of money. This solution utilizes the findings that the endowment effect is weaker for things: (1) protected by a liability rule rather than a property rule; (2) with certain value; or (3) framed as a bonus rather than a baseline. These are the first, fifth, and third pertinent findings respectively.

While Medicare benefits are not physical property, courts treat them like property in that they will issue injunctions to prevent deprivation of Medicare benefits without due process. For example, in \textit{Grijalva v. Shalala},\textsuperscript{56} the Ninth Circuit affirmed an injunction ordering the government to provide Medicare benefits. The court held that the way benefits were denied was a denial of due process because of the importance of the patient’s interest in the benefits.\textsuperscript{57} However,

\begin{itemize}
  \item \textsuperscript{54} Jeffrey Rachlinski & Cynthia Farina, \textit{Cognitive Psychology and Optimal Government Design}, 87 CORNELL L. REV. 549, 605 (2002). The authors suggest that legislators were able to let go of Ethics in Government Act of 1978, Pub. L. No. 95-521 because of a sunset clause in sec. 601(a), § 598. \textit{Id.}
  \item \textsuperscript{55} See id.
  \item \textsuperscript{56} Grijalva v. Shalala, 152 F.3d 1115 (9th Cir., 1998) (cert. granted, judgment vacated on other grounds).
  \item \textsuperscript{57} \textit{Id.} at 1121.
\end{itemize}
due process is only necessary if there is a chance of erroneous deprivation.\textsuperscript{58} A buyback provision removes any chance of erroneous deprivation because no patient-specific inquiry is necessary. Unlike the question of whether a specific procedure was covered for a specific person, the question of whether a benefit was bought back can be answered merely by determining whether the government exercised the buyback provision. This means that courts are unlikely to use injunctions to prevent entitlements from being bought back.

Specifying a buyback amount serves two purposes. First, it increases certainty about the value of the benefits, which takes advantage of the second pertinent finding, namely that the endowment effect decreases with certainty of value. In an experiment described above, the endowment effect attached more strongly to tokens with a value that would not be determined until after the choice to sell or not was made.\textsuperscript{59} The value of health care services is particularly uncertain because of the unpredictability of human frailty and technological innovation. Entitlements under the current Medicare system are like tokens with an uncertain value because not only do people not know if they will ever use that treatment, but they do not know how high the cost of that treatment might rise during their lifetime. A specified value in the buyback provision would act as a ceiling, decreasing uncertainty and with it, the endowment effect.

The second purpose of a specified buyback amount is to allow the government to protect itself against rising costs by declining to adjust the amount for inflation. Because adjustments for inflation are perceived as bonuses,\textsuperscript{60} this tactic takes advantage of the third pertinent finding, namely that the endowment effect attaches less powerfully to benefits perceived as bonuses.

If the government declines to raise the buyback amount along with inflation, the government could buy back the promised benefits for a relatively low cost when expenditures grow too large to sustain.

\textsuperscript{58} See id. at 1122 (relying on the risk of erroneous deprivation). See also Matthews v. Eldridge, 424 U.S. 319, 335 (1976) (holding that the risk of erroneous deprivation is a key factor for determining what process must be given before the government ceases providing a benefit).

\textsuperscript{59} van Dijk & van Knippenberg, supra note 34, at 519.

\textsuperscript{60} See Kahneman et al., supra note 6, at 204 (explaining the greater perceived fairness of reducing real wages by failing to adjust for inflation as a manifestation of the perceived distinction between reducing a gain and imposing a loss).
To get a sense of how much this tactic could save the government, consider the fact that a surgery with a buyback provision set at $10,000 in 1980 would have cost $15,862 by 1990 if adjustments had been made each year for inflation.\footnote{CPI Inflation Calculator, Bureau of Labor Statistics, http://www.bls.gov/data/inflation_calculator.htm (last visited Feb. 26, 2013).} The buyback could be set to automatically trigger when expenditures exceed initial estimates by a certain percentage, thus sparing any individual politician from having to take the blame for a reduction in benefits.

A recent tactic for reducing Social Security benefits illustrates the viability of reducing the real value of a benefit by failing to adjust it for inflation. Charged with finding a way to deal with ballooning Social Security obligations, the Bipartisan Policy Center’s Deficit Reduction Task Force recommended that cost-of-living adjustments to Social Security benefits should be tied to a different index called the Chained Consumer Price Index (“Chained CPI”).\footnote{Editorial, The Chained CPI, An Easy Way to Make Money, WASH. POST (May 26, 2011), http://www.washingtonpost.com/opinions/the-chained-cpi-an-easy-way-to-save-money/2011/05/23/AGaYsLCH_story.html.} Despite the fact that the Chained CPI will lead to fewer benefits than the currently used index, opposition to this change has been mild. For example, the Washington Post praised the Chained CPI as a more accurate adjustment mechanism and a lesson that when balancing the budget, “not every step must be painful.”\footnote{Id.} Balancing in such a manner avoids pain because the reduction is perceived as the loss of a bonus rather than the loss of a baseline. This tactic will only work for Medicare if its benefits are tied to a fixed dollar amount as are Social Security benefits, which is another reason to use the buyback provision.

One potential negative effect of the buyback provision is that beneficiaries may be less certain that they will receive healthcare. People might react to this uncertainty in multiple ways. One potential reaction is to save more. This could be beneficial even if the savings are not needed to purchase healthcare because Americans generally do not save enough for retirement.\footnote{Kathleen Santoro, Social Security Privatization Santoro, 10 HOLY CROSS J.L. & PUB. POL’Y 47, 58 (2006) (warning that without costly financial education, Americans are unlikely to save enough for retirement).} Alternatively, beneficiaries might
also respond to this uncertainty by purchasing insurance even though they have Medicare. This side effect would be problematic because it would require determination of whether the government or private insurance should pay for each treatment and would cause redundant administrative costs. A similar problem has been cited as the justification for putting all liability for nuclear accidents on one entity so that everyone else involved need not buy insurance.\textsuperscript{65} However, the fear generated by this uncertainty can be alleviated by categorizing benefits into baseline benefits and bonus benefits. If only bonus benefits can be bought back and baseline benefits include all of the crucial treatments, beneficiaries will not be worried enough to buy their own insurance.

In this system, bonus benefits can be exchanged while baseline benefits are inalienable. Inalienability in this context prevents exploitation of desperate or imprudent beneficiaries in the same way as laws against organ sales.\textsuperscript{66} This dichotomy preserves the basic safety net function of Medicare while taking advantage of the third pertinent finding, namely that the endowment effect is less strong for bonuses. The criteria for categorizing a treatment as a bonus could be either low cost-effectiveness or high risk that costs will rise above budget. Cost-effectiveness could be determined by the average quality-adjusted-life-years ("QUALY") saved per dollar. QUALY is a measure of health based on a person's valuation of different states of health.\textsuperscript{67} Thus, a pill that prolongs life by one year of perfect health (meaning no suffering and full capabilities) would be worth one QUALY, whereas a pill that prolongs life for one year in a vegetative state would be worth a small fraction of a QUALY.

A response to objections that involuntary buyback is too extreme is that the mere existence of the buyback provision will significantly reduce the endowment effect even if the government never exercises

\textsuperscript{65} John M. Kelson, \textit{State Responsibility and the Abnormally Dangerous Activity}, 13 HARV. INT'L L.J. 197, 221 (1972) (stating that strict liability was imposed on nuclear operators to avoid cross claims and redundant insurance costs).


its right. The existence of the buyback provision will both undermine the feeling that the entitlement is well protected and make the value of the entitlement more certain. Citizens who experience less of an endowment effect because of the buyback provision will be more inclined to voluntarily vote to reduce benefits when the money is needed elsewhere. The government would only need to trigger involuntary buybacks if it wanted to take advantage of a second potential benefit of buybacks: the weakness of the endowment effect for adjustments for inflation.

D. Roll Out New Programs in One State at a Time

Providing the benefit of a new Medicare program in staggered stages, perhaps by one new state per week, may also lessen the endowment effect. For example, if contact lenses were added to the list of covered treatments, the actual contribution towards contact lenses would only be made available in one state the first week and two states the second week. This takes advantage of the seventh pertinent finding, namely that the endowment effect is increased less by knowledge of legal ownership than by possession. If only those people who have experienced the benefit are biased and the rest of the population can objectively assess whether the benefit is proving worth the cost, then the unbiased portion of the population may be able to exercise their political power in time to ask their legislators to repeal the law.

The effectiveness of this solution may already have been tested inadvertently by President Obama, whose Patient Protection and Affordable Care Act ("PPACA") has faced intense political opposition. The fact that there is a widespread call for repeal of the PPACA but nary a peep about dismantling Medicare might be attributable to the fact that many of the new benefits in the PPACA, such as subsidies to purchase insurance, will not actually be provided

until 2014.70 Of course, this is only anecdotal evidence and there are many political reasons for the opposition, so confirmation requires rigorous scientific study of whether a one-state-at-a-time rollout can effectively reduce the endowment effect.

E. Rebate Rather Than Point-of-Purchase Benefit

What follows is the most problematic of the proposed methods. The advantages of the rebate method might be outweighed by its complexity and its introduction of liquidity concerns. However, the solution is worth discussing because of its ability to reduce the evolutionary salience of benefits.

Medicare could be transformed into a rebate program, meaning that instead of receiving the government’s contribution to their care at the point of purchase, beneficiaries would pay the full amount up front and then receive reimbursement later. For reasons discussed below, the rebate should come in the form of a lump payment every three weeks that aggregates the contributions owed for all services used during that time period. This solution is premised on the fourth finding, that the endowment effect increases with the evolutionary salience of an item, and the third finding, that the endowment effect decreases when a loss is framed as the loss of a bonus.

Like food, which was used as an example of an item with high evolutionary salience in the chimpanzee experiment described above, health care is perceived as particularly important to survival. The connection between healthcare and survival is strong, but that connection could be weakened by framing benefits as money rather than health care. To see how a rebate would achieve this, let us compare the likely perception of a rebate to the perception of Medicare benefits under the current system. When a recipient under the current system goes to pick up pills that prevent heart attack, Medicare pays for a portion of those pills while the recipient is holding them at the register. It is only natural for a recipient in this situation to perceive the benefit as lifesaving medication. On the other

hand, the recipient of a rebate would go buy pills without any contribution from Medicare and then three weeks later receive one check or direct deposit that lumps together the government’s contribution towards his heart pills along with contributions for unrelated pills and doctor’s visits. The passage of time in this alternative attenuates the psychological link between the payment and the health care. Similarly, the lumping together of payments focuses the recipient’s attention on the total monetary value rather than the medical purpose of each government contribution. The rebate recipient is likely to view his Medicare benefits as regular cash payments, which are less evolutionarily salient than lifesaving treatment.

A rebate system would also take advantage of the third pertinent finding, namely that people are more accepting of reductions of bonuses than raises of baseline costs. Cash payments are more likely to seem like bonuses, whereas the amount paid at the point of purchase is more likely to seem like the baseline. However, this is not a strong reason to switch from the current Medicare system because the current system is easy to view as a discount, the reduction of which would probably be perceived as a reduction of a bonus as was the car discount in the experiment described above.

A formidable objection to the rebate solution is that some people might not be able to afford the initial purchase.71 This could not be properly addressed by requiring healthcare providers to allow delayed payment for two reasons. First, such a requirement would cause the payment and the rebate to occur so close together that beneficiaries would perceive the rebate as the provision of healthcare benefits. A second failing of delayed payment is that beneficiaries might accumulate more debt than they anticipate because of hyperbolic discounting. Hyperbolic discounting is a cognitive bias that causes people to mistakenly think that if they acquire something on credit now they will not mind repaying it at the due date rather than a later date.72 Yet, when the due date arrives, they do mind and this often


72. Oren Bar-Gill, Seduction by Plastic, 98 NW. U. L. REV. 1373, 1396 (2004) (explaining that consumers buy more on credit than they anticipate because they are
causes them to delay paying even though such inaction increases their debt. This problem could occur if medical services do not have to be paid for at the time they are used.

A more promising, but administratively complex, way to overcome liquidity constraints is to give every Medicare beneficiary a sufficient amount of money as soon as they become eligible. However, because of the temptation to spend this money, this method might work best if the sum was deposited into a health savings account. A health savings account is a bank account under an individual's control that is funded by pre-tax contributions and intended for use only on qualified medical expenses.\(^7\) To ensure that people retain enough money to pay for healthcare in between rebate payments, the account could be refilled out of an additional charge automatically added to Medicare premiums whenever the account balance falls too low. If a person is unable to afford these premiums, then they will likely be covered by Medicaid, which, unlike Medicare, bases eligibility on income.\(^7\)

An auxiliary benefit of supplying everyone with a health savings account is that each Medicare beneficiary will have an account into which a rebate can be directly deposited. A direct deposit will have less evolutionary salience because its connection to healthcare will be obscured by the fact that its arrival is less noticeable than the arrival of a check.

Even with the complex system described above, there may be times when a patient who would have been able to afford his copayment is not able to pay and then wait for a rebate. Therefore, the rebate program should be limited to treatments that cost less than the starting balance of the health savings account, at least until there is a better solution to the liquidity problem.

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For a concrete illustration of how the rebate would work, imagine that a person becomes eligible for Medicare and receives a health savings account with $8,000. He does not frequently check the balance of this account because Medicare reimbursements keep it relatively stable. At some point, he needs a hip replacement. The hip replacement costs $6,000. He pays for it himself by writing a check from his health savings account. His co-pay is 10%, meaning Medicare will reimburse his account for $5,400. During that same three-week period, imagine he also pays $40 dollars for one medication and $10 for another medication. For those two medications, his account is owed reimbursement of $45 after the 10% co-pay. Two months later, he checks his balance and sees that it is $7,395. Since so much time has passed since he received healthcare, it is unlikely he will perceive that he is receiving particular prostheses or medications from the government. After multiple years, his balance falls below $6,000 after reimbursement. This triggers a temporary increase in the premiums he must pay for Medicare. Those increased premiums restore his balance to $8,000 and when he needs a second hip replacement, he is able to pay for it himself and then wait for reimbursement.

In conclusion, a rebate system could avoid liquidity problems while significantly reducing the endowment effect if it used lump direct-deposits into health savings accounts that are stabilized by variations in Medicare premiums.

F. Focus Attention on the Exchange Value of Healthcare Benefits

According to the fifth pertinent finding, people experience less of an endowment effect when they assess an entitlement for its exchange value rather than its use value. Therefore, the government can decrease the endowment effect attached to Medicare benefits if it allows beneficiaries to exchange their benefits for something else of value. There are multiple ways to allow exchanges, but my preferred solution is outlined below.

The first element of an exchange system that must be determined is whether or not all benefits may be exchanged. It would be better to distinguish between baseline benefits, which are inalienable, and

75. See Scharff & Partisi, supra note 12, at 29.
bonus benefits, which can be sold. This will preserve the safety-net function of Medicare while also taking advantage of the third pertinent finding, namely that the endowment effect attaches less strongly to bonuses. The details of the baseline–bonus dichotomy are more fully explored above in Section III.C.

The second element of an exchange system that must be determined is who should be permitted to buy the benefits. The system would probably work best if the government were the only permitted buyer. One reason to prevent private participants from buying Medicare benefits is that they might exploit over-optimism or desperation in order to grab benefits at unfair prices. Over-optimism is a significant risk in the health insurance field. One study found that more than half of subjects perceived their risk as average or lower than average for heart attacks, strokes, cancer, and motor vehicle crash. Even individualized risk explanations designed to correct this over-optimism were unable to shake the bias related to heart attack and motor vehicle crash. While private actors would offer as little as under-perceived risk allows, the government would ideally set its offer only as low as necessary to prevent inefficient treatments or avert a budget crisis.

The exchange system would be more effective if the exchange value is standardized for each treatment. While negotiating the price for each sale might focus attention even more on the exchange value, the transaction costs and the risk of exploitation would likely outweigh that advantage. One might think allowing negotiation of the price of each transaction could reduce the endowment effect by allowing beneficiaries to hire agents to negotiate for them, but experiments have not conclusively established that use of an agent reduces the endowment effect. While one experiment found no endowment effect for agents merely asked to give advice, a different experiment found an endowment effect for agents who were required to negotiate on behalf of their client and were told that their

77. Id. at 56.
performance would affect their future business relationship with their client.79

An example might clarify how this exchange system would operate. Suppose that the government is considering extending Medicare benefits to cover an experimental new stem cell treatment. The government is worried about the uncertain cost and effectiveness, so it classifies the new treatment as a bonus benefit and sets its exchange value at $100,000. Five years later, studies show that the new treatment costs more than expected, e.g. $500,000, while it has only been able to extend life by an average of one month. Under this system, the Medicare budget would be saved because the majority of patients, used to thinking about this new treatment as a bonus and as an exchangeable good, would not feel a strong endowment effect and would prefer to exchange an inefficient treatment for $100,000 to support their families.

One potential failing of this exchange system is that it might raise government expenditures overall by obligating the government to pay people who would never have used the treatment to which they were entitled. One way to mitigate such an effect is to only allow a benefit to be sold if a doctor recommends its use for that person at that time. Even with that limitation, the discomfort of some procedures might have been enough to dissuade a person from demanding the treatment even without compensation. However, only a subset of treatments cause intense discomfort, and even within that subset, refusal is rare. For example, the months of nausea and fatigue caused by chemotherapy only dissuade 10-15% of patients from undergoing chemotherapy.80 If this rate of refusal applied to the stem cell example above, then the government would still save an average of $347,500 per person, even though it pays some people who would never have used their benefit. Even when moderate discomfort should overshadow a miniscule chance of success, over-optimism would likely cause many patients to request treatments with extremely low probabilities of success.

79. Korobkin, supra note 5, at 1240.
IV. OBJECTIONS

It might be too difficult to apply these solutions to current benefits because the endowment effect has latched on to them. That, however, is not an insurmountable limitation because solutions still might be incorporated into new benefits at the time of their creation. One author suggested that this tactic is what allows state governments to tax lottery tickets with much less opposition than they face for taxes on other goods. For example, consumers would more strongly oppose a tax on lattes than a tax on a lottery tickets if lotteries had previously been illegal because only the latte tax would be perceived as a loss.

One potential general objection to all of my proposed methods for weakening the endowment effect is that there is not enough justification for intervention if the endowment effect is rational or at least voluntarily experienced. However, scholars have questioned both of those assumptions. First, some scholars have justified efforts to bring WTA down to WTP by characterizing the endowment effect as a symptom of bounded rationality. Bounded rationality occurs when the limitations of the human mind preclude it from making optimal decisions. Second, the endowment effect is not voluntarily experienced because even people who know about the endowment effect underestimate how strongly it will affect them. This failure to predict the strength of the endowment effect allows people to fall into situations that their past selves would have wanted to prevent. For example, a common technique for taking advantage of consumers is to induce them to buy a product by presenting them with the misleading

82. Id. at 30.
83. See Jolls & Sunstein, supra note 28, at 222 (arguing that the endowment effect should be weakened because it results from distortions of judgment such as failing to properly assess the opportunity costs of clinging to what one already has).
84. HERBERT A. SIMON, MODELS OF MAN 198 (1957).
85. See Leaf Van Boven, George Loewenstein, & David Dunning, Mispredicting the Endowment Effect: Underestimation of Owners’ Selling Prices by Buyer’s Agents, 51 J. ECON. BEHAV. & ORG. 351, 352 (2003) (“If people were aware of the endowment effect . . . they could at least take these shifting preferences into account when making decisions . . . Prior research, however, indicates that people underestimate the magnitude of the endowment effect.”).
option to change their minds later. Option to change their minds later. This option is misleading because while consumers technically still have this option after purchase, they will not exercise it because after purchase their valuation will be inflated by the endowment effect. Protestations that intervention violates autonomy are undermined when the object of intervention would have chosen differently at a previous time. In fact, one of the fundamental reasons that people support non-means-tested government entitlement programs may be that it allows them to achieve their long-term preference to save despite intervening short-term preferences to spend.

V. CONCLUSION

The solutions discussed in this article have the potential to considerably reduce the endowment effect attached to Medicare benefits, allowing the United States to more efficiently allocate resources and to experiment with new benefits without moving up a one-way-ratchet. Even if these specific solutions do not prove feasible, they serve as proof that experiments exploring the contours of a cognitive bias, as opposed to experiments simply confirming its existence, can be crucial for designing nuanced improvements of government entitlement programs.

Many of the findings used above could also be used to lessen the endowment effect attached to other entitlements granted by the government. Here is just one roughly outlined example to spur future research: the Patent and Trademark Office ("PTO") could insist that every applicant confidentially submit the price at which they would be willing to sell the patent if it is granted. Then the PTO could solicit bids from anyone who believes that they can profitably develop the


88. Experiments have detected a strong endowment effect for intellectual property. See, e.g., Christopher Buccafusco & Christopher Sprigman, Valuing Intellectual Property: An Experiment, 96 CORNELL L. REV. 1, 25 (2011) (finding that owners demanded much more for the right to profit from their poems than buyers were willing to pay).
If the highest bidder bids higher than the reserve price, then the bidder would have the right to force a sale at the moment that the patent is approved. This proposal incorporates the findings that the endowment effect is lessened by liability rules and by focus on exchange value, the first and fifth pertinent findings respectively.

In order to ensure that applicants do not simply submit an unrealistically high reserve price, the PTO could add to the application fee a percentage of the reserve price. One scholar argued that a somewhat similar mechanism would work to force homeowners to accurately assess the value of their homes for tax purposes.89 It remains to be seen whether the application fee could be calibrated to be high enough to discourage overvaluation but low enough for inventors to afford. This is just one example of the many areas where endowment effect experiments reveal potential improvements to government programs.

While the endowment effect is a powerful and pervasive part of human life, there are many ways for the well-informed lawmaker to work around it. As this article has demonstrated, legislators can use specific findings from endowment effect experiments to delay or lessen the attachment of the endowment effect to Medicare benefits. That would give legislators the flexibility to continually reallocate money from inefficient programs and to safely experiment with new Medicare programs without fearing that even failed experiments will become permanent.

89. Saul Levmore, Self-Assessed Valuation Systems for Tort and Other Law, 68 VA. L. REV. 771, 779 (1982) (proposing that self-tax-assessments could be made accurate by publishing them and allowing anyone to force a sale at that price).