A fairly mechanical method for policy innovation

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In this chapter, I propose a way to generate policy ideas to bring about sustainable outcomes without prohibiting behaviors or informational appeals.

The method is fairly mechanical and simple. This should not necessarily undermine the quality of the ideas it generates, as even important scientific discoveries are thought to have arisen from the application of heuristics for discovery (Langley et al, 1987; Gigerenzer & Goldstein, 1996). To apply the method, one begins with a list of objectives one would like to see achieved. One crosses the list of objectives with a list of tools of policy, and attempts to populate a matrix of ideas.

	Tool 1	Tool 2	…	Tool n
Objective 1	Idea (1,1)	Idea (1,2)	…	Idea (1,n)
Objective 2	Idea (2,1)	Idea (2,2)	…	Idea (2,n)
…	…	…	…	…
Objective m	Idea (m,1)	Idea (m,2)	…	Idea (m,n)

Figure 1

For each possible combination of objective and tool, the policy designer asks how each tool could be applied to each objective. The creative process can be helped along by using a spreadsheet to generate imaginary article titles of the form "A *tool*-based approach to *objective*", for each combination of tool and objective, in one column and then writing what such an approach might look like in another column. A spreadsheet to complete might be arranged as follows:

Objective	Tool	Imaginary article title	Idea
Objective 1	*Tool 1*	"A *tool 1*-based approach to *objective 1*"	
Objective 1	*Tool 2*	"A *tool 2*-based approach to *objective 1*"	
…	…	…	

Objective 1	*Tool n*	"A *tool n*-based approach to *objective 1*"	
Objective 2	*Tool 1*	"A *tool 1*-based approach to *objective 2*"	
Objective 2	*Tool 2*	"A *tool 2*-based approach to *objective 2*"	
…	…	…	
Objective 2	*Tool n*	"A *tool n*-based approach to *objective 2*"	
…	…	…	
Objective m	*Tool m*	"A *tool n*-based approach to *objective m*"	

Figure 2

The method is described as fairly mechanical because the steps listed above do only some of the work. The rest is left to the creativity of the policy maker. As a caveat, I should say that while I think this technique is better than doing nothing, I have not tested it against other methods of generating ideas, structured or unstructured. However, since the process may generate a few good ideas, is quick and pleasant in its own right, there is little risk in testing it.

For this volume, I applied the method using as objectives sustainable actions as tools a topic a personal research interest, defaults. We step through both now in detail.

Objectives: Actions that reduce carbon emissions

To suit a general audience, I searched for a list of actions that could be achieved by typical households, as opposed to specialized corporations. Thomas Dietz and colleagues' paper "Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions" in the Proceedings of the National Academy of Sciences (Dietz at al. 2008) lists a series of actions, which, if undertaken in the United States, would reduce carbon

emissions by an amount roughly equal to the carbon emissions of France (p. 18452). I took the actions from that article and re-expressed them in the form of measurable objectives as follows:

1. Increase the proportion of windows without drafts
2. Better align heating and air conditioning settings to time of day, season, and presence of people home
3. Decrease the average amount of standby electricity used by appliances
4. Decrease the average temperature settings of clothes washers
5. Decrease the average temperature settings of water heaters
6. Decrease the weight carried in automobile trunks
7. Increase air conditioner tune up rates
8. Increase automobile oil change rates
9. Increase heating, ventilation and air-conditioning filter change rates
10. Increase the proportion of attics insulated
11. Increase the proportion of drivers who lessen acceleration and deceleration rates
12. Increase the proportion of drivers who maintain 55 mph speed
13. Increase the proportion of drivers who use cruise control
14. Increase the proportion of Energy Star furnaces, air conditioners, water heaters, refrigerators, and clothes washers in use.
15. Increase the proportion of fuel efficient vehicles in use
16. Increase the proportion of LED televisions in use (relative to plasma screens)
17. Increase the proportion of low-flow showerheads in use
18. Increase the proportion of low rolling resistance tires in use
19. Increase the proportion of triple-pane windows in use
20. Increase the proportion of wash loads dried on the line
21. Increase tire inflation rates
22. Increase vehicle tune-up rates
23. Reduce the number of motor vehicle trips made per day
24. Reduce the proportion of single passenger motor vehicle trips
25. Reduce time vehicles spend idling

Dietz et al. categorize the actions as: one time investments in building shells, purchases to increase the energy efficiency of household appliances, infrequent actions that can be maintained by habit, infrequent actions that are maintained automatically, and frequently repeated actions maintained by habit or conscious choice (p. 18454). Since this categorization contains within it ideas about how to achieve the objectives, I did not include it in the spreadsheet so that it would not interfere with generation of different solutions. With an ambitious set of concrete and measurable objectives before us, we turn to the instruments of policy: defaults.

Tools: A variety of defaults

Defaults are decisions taken in the absence of an active choice (Brown and Krishna, 2004; Johnson, Bellman and Lohse, 2002; Sunstein and Thaler 2003). Defaults exert a strong and predictable influence over behavior (Goldstein et al 2008). However, because defaults permit individuals to take active choices, they preserve the right to choose that is valued in many societies. It is this dual character of influencing behavior and preserving choice that has caused many to see the promise of defaults for creating policies (Thaler and Sunstein, 2008).

Defaults are surprisingly powerful. In European countries with opt-in organ donor pools, it is rare for more than 20% of the population to opt in, while in opt-out countries, it is not unusual to find that over 99% of the population do not opt-out (Johnson and Goldstein, 2003). When employees are defaulted into participating into a pension program at an employer, nearly all do, while less than two-thirds do when the default is to not participate (Beshears et al. 2006). The effect of defaults can be measured in the millions or billions of dollars. Two US states, Pennsylvania and New Jersey, underwent a legal change such that all motorists had to pick between a high-cost insurance policy that provided the right to sue or a low-cost insurance policy which lacked this right. The two states chose opposite defaults, setting up an interesting natural experiment. New Jersey chose the limited policy as the default and Pennsylvania chose the more comprehensive one. In New Jersey, 21% purchased the right to sue, while in Pennsylvania 70% did

(Johnson et al 1993). That is, 70 to 79% of people on both sides of the river went with the default, with large financial consequences for insurance sales.

While the effects of defaults are great, they have received relatively little attention in the academic literature. A few years back, some colleagues some colleagues and I proposed a taxonomy default types and ideas about which default to apply to which situations (Goldstein et al, 2008, 102-103). I use this list as a starting point to generate policy ideas, and will ultimately revise this list as a result of this exercise.

To understand these examples, think of a product that can come in various configurations. For instance, a new car might come with a passenger-side airbag enabled (but can be switched off) or disabled (but can be switched on) by default. The enabled default would be ideal if the passenger is a large adult, but potentially fatal if the passenger is a small child. Nonetheless, the manufacturer, it would seem, must choose one of these two settings as a default. In addition to product defaults, services can have default settings as well. For example employees might participate or not participate in their company's pension plan by default. Note that for something to be a default, there must be the possibility for the customer to switch states. If it were not for this possibility, defaults would not preserve freedom of choice. Here is the list of tools of policy that will be applied:

Benign Defaults When policy makers set a benign default, they take their best guess about which configuration would be most acceptable and present the least risk to most people. These are "mass defaults", meaning that they are applied to all people uniformly, and not on a case by case basis.

Random Defaults To enact random defaults, policy makers randomly assign customers to one of several default configurations and track change rates. They are often used to learn about preferences or the consequences of alternatives. They are only recommended when there is little foreseeable harm in someone receiving either default.

Hidden Options When a single default configuration is presented as the only choice when alternatives do exist, the policy maker is using hidden defaults. For instance, the availability of special meals on airlines is not widely publicized, though customers who are knowledgeable enough to know of the hidden option are able to switch. Hidden options violate the spirit of choice-preserving defaults in that they limit the ability of the consumer to switch states.

Forced Choice In forced choice, the default is to deny providing the product or service unless a configuration is actively chosen. In some cases, defaults exist even when forced choice is used. For instance, if people must answer a question about whether they consent to be organ donors when applying for a driver's license, those who do not apply for licenses dodge the question and would be classified according to the prevailing regional law (e.g. they would not be considered donors in the United States). In other cases, forced choice implies no default at all. For instance, imagine an installer for a web browser that will not proceed unless a default search engine is chosen. Those who do not answer the question will not be able to install the browser and their default search engine for that browser will be undefined.

Persistent Defaults A persistent defaults policy assumes that a customer's last choice should be used as the default for the next choice. For example, if a customer requests an aisle seat on one flight, they might be assigned one by default on the next flight. This last choice could be a result of an application of a default, an active departure from the default, or a forced choice question.

Reverting Defaults A reverting defaults policy ignores a customer's last active choice that departed from the default, treating it an exception, reverts back to the long-term default.

Smart Defaults A kind of personalized default that can sense and react, smart defaults use information about an individual or a situation to generate tailored configurations. An example would be assigning employees in a pension program to one of several "target retirement funds" based on their age.

Adaptive Defaults Another kind of personalized default, adaptive defaults dynamically update based on current, often real-time, decisions that a person has made and attempt to guess remaining defaults. Examples include product configurators that use a small set of questions to guess a user's needs (e.g. home or business) and recommend finished products.

Applying the process

A spreadsheet was constructed like that in Figure 2, nesting tools within objectives (though the alternative nesting, or a random order, might have its merits). I filled in its 200 rows (8 tools by 25 objectives) where possible. While completing the task, I found that for certain cells no ideas, or only unappealing ideas, came to mind. I left these cells blank and moved on to avoid getting stuck at one row and possibly preventing the expression of good ideas waiting in rows to come. I also decided early on that I would not make my spreadsheet public, for the though of doing caused me to censor myself. Instead, I took the approach of possibly generating many bad ideas in the hopes of ending up with a few good ones. A creative writing teacher of mine once referred to this as "letting the faucet run to clear out the rusty water".

Revising the classification of defaults

An unexpected benefit of the exercise was that it caused me to re-think the classification of defaults cited above. Here is a revised classification:

1. Policies for establishing initial configurations
    a. Forced choice: Ask user one or more questions to determine the configuration
    b. Simple defaults: Use a default configuration set by the policy maker
    c. Sensory defaults: Choose among multiple sets of configuration based on any available data other than individual usage data (which does not exist at initial use)
    d. Random defaults: Choose a configuration randomly from several alternatives

2. Policies for establishing configurations for re-use
    a. Predictive defaults: Apply learning algorithms to the past configuration and user data to adjust the configuration automatically
    b. Persistent defaults: Re-use the configuration from the last session
    c. Reverting defaults: Establish the configuration anew according to the initial default policy. That is, treat each use as the first use

3. Techniques for adjusting configurations
    a. Manual adjustment: Ask user to review each setting providing the user the opportunity to change. The choice default for each choice must be determined by another method.
    b. Predictive adjustment: Review each setting, providing the user the opportunity to change. Each change causes the subsequent choice option defaults to update dynamically so that they are likely to be acceptable.

What's new? One realization is the distinction between the default and the configuration. The *configuration* is the collection of settings. *Default policies* determine the default configuration, which can be adjusted. When adjusting a configuration, *choice option defaults* are pre-selected options which a person can simply approve or make an active choice to change. The policy designer may choose to have the system prompt the user to adjust the configuration, or simply respond to users' requests to adjust. With *predictive adjustment* the process can be streamlined by a kind of auto-completion, taking educated guesses about the levels of the remaining choice-option defaults on the basis of past choices.

Policies for determining a configuration differ between the initial use of a product or service and its subsequent re-uses. At the first use, there is no previous use data about the user to exploit for determining the configuration. However, in *sensory defaults* the system may be able to detect some things about the user (demographics, a case-history file, directly observable information) it may use to make an educated guess when setting the

configuration. At re-use, this sensory data is still available, but now the system also has data on how the user interacts with the product or service and can start to extrapolate, updating the configuration through *predictive defaults*. For instance, a thermostat, after noticing that the user increases it two degrees each morning and decreases it three degrees each night might adjust the daytime and nighttime settings in the configuration accordingly. The distinction between sensory and predictive defaults is that the former do not have past usage data and take the form of if-then rules, while the latter have past usage data and take the form of learning algorithms.

Reflections coming out of the process

In applying the process, I found that one idea might apply to a range of objectives that group together thematically. To begin, I flesh out some of these higher-level ideas.

Defaults and shopping

Many of the actions suggested by Dietz et al involve purchasing new products. An unappealing and narrow application of defaults to shopping involves placing a product in a customer's cart by default, a process actually tried by some airlines trying to sell trip insurance alongside airline tickets. One does not see this attempted much these days, perhaps due to laws concerning unintentional purchases as well as a general distaste for the practice by consumers. Seeing this as unviable, I thought that defaults might apply not to the product itself, but to the presentation of the product. In online settings, what appears first is favored. In auctions by Google and Yahoo, for instance, advertisers bid to be placed above the others on the page knowing that, all else equal, this top position will yield more clicks. Online retailers could set defaults such that Energy Star products (those meeting a certain standard of efficiency in the USA) could be presented to customers first on vendors' Web pages that display products within a category. For it to truly be a default, consumers would need the ability to change the ordering of products, so an "Energy Star first" checkbox would be visible in the filtering options of the page. Setting product displays to list energy efficient appliances first is a *simple defaults* solution. Vendors could be incented to present and pre-tick such a box through tax breaks or by selective membership to a responsible business organization. With the sale of many

products moving online, the domain of Internet commerce could be the ideal territory to test defaults.

Consumer behavior researcher John Lynch and I are beginning work on a project involving his idea of what might be called “smart consideration sets”. Being in a customer’s self-proclaimed consideration set predicts that an item will be chosen over an item not in the set (Hauser, 1978), and a hypothesis worth testing is whether items placed into an artificial consideration set have a similar favored status. Today, virtual consideration sets are routinely created in the form of online product comparison engines and recommender systems. It would be instructive to place energy efficient products in virtual consideration sets by default. Doing so would not lead to unintentional purchases, but it could increase the probability of an efficient device being chosen. Smart consideration sets are an instance of *predictive defaults* because the users’ virtual consideration set is originally set to be empty and is endowed with an appropriate energy-efficient product only after the user has specified what they are shopping for.

A *forced-choice* mechanism for online purchases might allow shoppers to proceed as usual, but then ask them just before checkout to decide between the product they have chosen and a comparable energy efficient model, presented along with cost of ownership information.

Predictive defaults and *persistent defaults* could also be employed online when customers shop for multiple products from the same retailer on one or multiple visits. For instance, imagine someone in the market for a refrigerator, clothes washer, dryer, and television. After they choose one energy-efficient good, the Web site could learn to display energy efficient models at the top of their list of search results for the other products. That is, predictive defaults would be responsible for changing the sort order of products to “Energy Star first” on the basis of the first product placed in the cart. Persistent defaults would be responsible for retaining this configuration for future visits by this customer.

<u>Defaults and services</u>

Many energy inefficient goods are, unfortunately, already in use. Replacing or maintaining them would cause a great decrease in carbon emissions according to Dietz et al., but old products do not replace or maintain themselves by default. A service provider is desirable to do jobs such as servicing air conditioners, replacing an automobile's oil or tires, inflating tires, insulating an attic, or replacing thin, drafty windows.

Consumers are accustomed to some services, such as sanitation, taking place by default, but in the case of some paid services, provision by default is unthinkable. At the same time, many people wish that certain maintenance activities would simply happen by themselves, even if they are just a phone call away.

One solution would be to create appointments by default, or more specifically *options for appointments* by default. An option for an appointment means that one has the right to convert the option into an appointment, but if one does not, nothing will happen. Consider the servicing of an air conditioner. Imagine that every five years you received an email from the local government stating that an appointment has been made for you to have your air conditioner serviced at a certain date and time. If you don't want that appointment, you do nothing and nothing happens. If you do want the service at that time, you click through on the email to accept, and a service person shows up at your house at the specified time. If you want the appointment at a different time, you can click to reschedule. This example employs two configuration settings. The first is to receive options for appointments via email. The *simple default* for this is to be "yes", and can be set to "no" to preserve choice. The second is to have the appointment take place. The *choice-option default* for this setting is "no" (the appointment will not take place unless confirmed), but the consumer has the opportunity to change this through prompted *manual adjustment* (the prompt being the email). One might think that this is nothing more than getting reminders by default, but it is. A unilateral offer to commit to a particular time does have value, just as options in financial markets do. They save the consumer some deliberation and effort for it is easier to confirm than it is to generate a proposed time and reach out to the other party. (Consider how often you get emails asking you to propose a meeting time from a person who could have done the same.)

Beyond visits that take place at home, appointment options could be used to schedule services at the vendor's place of business (such as changing oil or inflating or replace tires). The result could be better maintained equipment and shelter that consumes less energy. Vendors should appreciate the business as well, though coordination by a trusted authority (e.g., a local government) would be necessary.

Defaults and devices

Defaults built into technology have strong effects. When installing software, many of us click "next" in response to most every question the installer asks. When installing web browsers, many people do not reset the default home page, and it has been argued that AOL's four billion dollar purchase of Netscape was motivated less by its software and more by its default home page, which was not changed by some 40% of users (Kesan and Shah 2006). Technology defaults are so powerful that companies like Google and Microsoft face legal regulations regarding the degree to which they can make a search engine a default (Johnson & Goldstein, 2006).

Changing human behavior is hard, but changing the behavior of devices is usually trivial engineering. We live in an age in which the size and cost of computers is approaching zero and the cost powerful software (such as the Linux operating system) is free, both in the sense of *gratis* and *libre*. I suspect that many of the ideas below have already been implemented, or could be implemented in at very low cost.

Consider the case of stand-by electricity, the small amounts of power consumed by appliances (such as television sets) in a sleeping state that allows them to be powered on by remote control (as opposed to manually flipping a switch). Standby electricity is estimated conservatively by Dietz et al. (2009, appendix p. 6) to consumer at 440 kilowatt hours per household annually. That is roughly 4% of household electricity consumption in the United States, and by appliances that no one is using. Since widespread adoption of Energy Star appliances would reduce standby power

consumption by 80%, some improvement could be made with the above ideas for influencing online purchasing decisions.

The remaining 20% could be attacked as well. The default configuration of many appliances is to enter standby mode when turned "off" by remote control. The alternate setting of shutting appliances all the way down is unattractive as it would essentially undo the convenience of standby power. A *predictive default* solution would be to move an appliance from standby to off when no one is around to use it, and to move it from off to standby when someone might. What is needed is a "people presence detector" that monitors when people are at home and awake (via sensors at the doors and light switches, or by motion and sound-detectors) incorporated into a meta-appliance that controls the standby power consumption of televisions, stereo systems, computer monitors, or anything the requires a human being present to be used. No magic is necessary to move an appliance between standby and off – all one needs is to plug it into an outlet that can be turned on or off remotely. Ironically, the meta-appliance would itself consume standby electricity, but the net savings are obvious because of the one-to-many effects.

Predictive defaults could reduce the energy needed for heating water and regulating the temperature of homes. Going beyond people presence detectors, "people presence predictors" could record people's comings, goings and behaviors (again by monitoring light switches, doors, and manual adjustments to thermostats) and use simple learning algorithms to predict when they are likely to want heat or air conditioning on, or hot water available. On a daily basis, it could move appliances from low- to regular-power modes when they are likely to be used. Similarly, it could detect when the occupant is out of town and reduce power consumption accordingly.

As a result of engaging in this exercise, I refined a previous classification of defaults (Goldstein et al 2008) to introduce some new concepts, clean out some old ones, and to clarify some terminology. In addition, some general purpose policy ideas like options for appointments and smart consideration sets have arisen. Before concluding, I offer some

suggestion as to how these concepts and ideas might apply to the 25 objectives which aided in their creation.

Twenty five objectives and at least twenty five ideas

1. Increase the proportion of windows without drafts
    a. Options for appointments (simple defaults and prompted manual adjustment)
    b. Smart consideration sets for new purchases (predictive defaults)
    c. “Energy star first” display options for new purchases (simple defaults)
2. Better align heating and air conditioning settings to time of day, season, and presence of people home
    a. People presence detectors (sensory default)
    b. People presence predictors (predictive default)
3. Decrease the average amount of standby electricity used by appliances
    a. Smart consideration sets for new purchases (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)
    c. People presence detectors (sensory default)
    d. People presence predictors (predictive default)
4. Decrease the average temperature settings of clothes washers
    a. Clothes washers that detect the color of clothing and sets temperatures accordingly (sensory default)
    b. Clothes washers that ask color and sets temperature accordingly (forced choice then adaptive autocompletion)
5. Decrease the average temperature settings of water heaters
    a. For new purchases, manufacturers set heaters to recommended levels, which user can readjust (simple default)
    b. Smart consideration sets for new purchases (predictive defaults)
    c. “Energy star first” display options for new purchases (simple defaults)
    d. People presence detectors (sensory default)
    e. People presence predictors (predictive default)
6. Decrease the weight carried in automobile trunks

    a. No good ideas arose
7. Increase air conditioner tune up rates
    a. Options for appointments (simple defaults and prompted manual adjustment)
8. Increase automobile oil change rates
    a. Options for appointments (simple defaults and prompted manual adjustment)
9. Increase heating, ventilation and air-conditioning filter change rates
    a. Options for appointments (simple defaults and prompted manual adjustment)
10. Increase the proportion of attics insulated
    a. Options for appointments (simple defaults and prompted manual adjustment)
11. Increase the proportion of drivers who lessen acceleration and deceleration rates
    a. No good ideas arose
12. Increase the proportion of drivers who maintain 55 mph speed
    a. Have cruise control turn on by default when 55 mph speed or greater is maintained for more than 10 minutes (predictive default)
13. Increase the proportion of drivers who use cruise control
    a. Have cruise control turn on by default when 55 mph speed or greater is maintained for more than 10 minutes (predictive default)
14. Increase the proportion of Energy Star furnaces, air conditioners, water heaters, refrigerators, and clothes washers in use.
    a. Smart consideration sets (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)
15. Increase the proportion of fuel efficient vehicles in use
    a. Smart consideration sets (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)
16. Increase the proportion of LED televisions in use (relative to plasma screens)
    a. Smart consideration sets (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)

17. Increase the proportion of low-flow showerheads in use
    a. Smart consideration sets (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)
    c. Options for appointments for replacement (simple defaults and prompted manual adjustment)
18. Increase the proportion of low rolling resistance (LRR) tires in use
    a. Smart consideration sets (predictive defaults)
    b. “LRR first” display options for new purchases (simple defaults)
    c. Options for appointments for tire replacement (simple defaults and prompted manual adjustment)
19. Increase the proportion of triple-pane windows in use
    a. Smart consideration sets (predictive defaults)
    b. “Energy star first” display options for new purchases (simple defaults)
    c. Options for appointments for window replacements (simple defaults and prompted manual adjustment)
20. Increase the proportion of wash loads dried on the line
    a. If the outdoor temperature is warm, clothes washer asks if it should tumble dry (sensory default)
    b. Options for deliveries. Like options for appointments, but recipient would receive an option to have a free clotheslines delivered to their home (simple defaults and prompted manual adjustment)
21. Increase tire inflation rates
    a. Options for appointments, combined with other auto-maintenance objectives (simple defaults and prompted manual adjustment)
22. Increase vehicle tune-up rates
    a. Options for appointments (simple defaults and prompted manual adjustment)
23. Reduce the number of motor vehicle trips made per day
    a. Online mapping software could list public transportation alternatives before providing driving directions (simple defaults)
24. Reduce the proportion of single passenger motor vehicle trips

a. Online mapping software could list public transportation alternatives before providing driving directions (simple defaults)

25. Reduce time vehicles spend idling
    a. After 5 minutes of idling, automobile asks driver if it should shut down (sensory default)
    b. For busses, a GPS tracks places where a bus idles for more than five minutes on its route. When the bus next stops at such a place for one minute, it automatically shuts off after a warning period (predictive defaults)

Preserving Choice

Since defaults are so powerful, one might expect that the changes proposed here to have substantive effects. Are defaults acceptable in societies that put a high value on freedom of choice? In the strict sense, default preserve free choice, and advocates of libertarian paternalism emphasize this (e.g., Sunstein & Thaler, 2003). At the same time, defaults are manipulative: the evidence is great that they change behavior.

In practice, decisions need defaults. Attempts to make all choice into forced choices would result in citizens spending all their time deciding, and still would not address those who choose not (or who are unable) to choose. Free choice and defaults may seem at odds, but even the most choice-loving societies require them. Furthermore, while a given default configuration may be seen as manipulative, so are its alternatives. One configuration must be chosen and ultimately there is no shortcut to weighing the costs and benefits making courageous policy decisions.

The acceptability of defaults has much to do with the reasons why defaults are effective in a particular situation. People follow defaults for various reasons. They may interpret them as recommendations (McKenzie, Liersch and Finkelstein), or they may see them as indications of what other people might do (Samuelson and Zeckhauser, 1988). People are

capable of reasoning about defaults, as consumers make shrewd assumptions about a vendor's motives when they see its choice-option defaults (Brown & Krishna, 2004).

However, apart from situations in which people think and reason about defaults, some default effects may be due to transaction costs or ignorance. If people find it too difficult to choose against the default, or if they do not know how to, we depart from the practice of setting defaults and enter the territory of creating obstacles to choice. Defaults whose effects depend on such barriers are not ideal instruments of policy. Policy makers should design defaults that are nearly as easy to change as to follow, and may be surprised at how many people prefer intelligent defaults to bans and appeals.

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