

The People's Perspective on Libertarian-Paternalistic Policies

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Abstract

We examine the views toward libertarian-paternalistic (soft) governmental interventions in a series of online experiments conducted in three countries. We use both standard and new methods to elicit attitudes toward soft interventions in various hypothetical scenarios. The majority of the participants accept these types of interventions by the government. However, a substantial proportion opposes them and would prefer that the government simply provide information to help the public make the right choice rather than use a more effective choice architecture intervention. Some even refuse to make the choice that the government promotes, although they would have done so in the absence of the intervention. The opposition to soft interventions appears to be driven by concerns about manipulation and the fear of a slippery slope to nonconsensual interventions. Opposition to soft interventions is reduced when they are implemented by employers rather than the government.

1. Introduction

This paper seeks to provide a deeper understanding of the public's attitude toward the soft governmental interventions advocated by supporters of libertarian paternalism. We report the results of a series of online experiments designed to explore the existence of a negative attitude toward soft interventions and examine the aspects of an intervention that are most likely to lead to this negative attitude.

Governmental interventions in personal decision-making can be classified into three types: hard interventions, which change the choice set of the individuals (such as taxes or prohibition of particular choices); informational interventions,

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which provide an individual with the information needed to make an informed decision (such as by means of accessible smartphone applications); and soft interventions, which preserve the set of options but affect the way that the set is perceived to nudge the individual in a particular direction. Frequently discussed examples of soft interventions include setting a particular rate of retirement saving as a default option (Choi et al. 2004; Madrian and Shea 2001) and placing healthy foods in the most noticeable locations in cafeterias (Rozin et al. 2011; Thaler and Sunstein 2009).

Libertarian paternalism argues for the use of soft interventions by the government (or some other institution) in an individual's decision-making process in an attempt to improve public welfare (Camerer et al. 2003; Sunstein 2014; Thaler and Sunstein 2003). The approach makes use of insights from psychology, marketing, and behavioral economics. Much of its attractiveness lies in the fact that it seeks to steer individuals toward the right decisions while preserving the principle of freedom of choice.

1.1. Critiques of Libertarian Paternalism

The libertarian-paternalistic approach has been enthusiastically adopted by the public and some governments but has also ignited an intense debate. In this paper, we do not analyze the arguments for and against the nudge approach (Thaler and Sunstein 2009) and do not present our own opinion on the issue. Rather, we seek to experimentally determine whether a significant portion of the population that agrees with the goals of a soft intervention nevertheless resist it and to determine which aspects of such interventions bother the public the most.

To pursue the second goal, we classify the arguments discussed in the literature against libertarian paternalism into five categories. We also briefly summarize the main counterarguments, often utilizing Sunstein (2015), a recent and comprehensive defense of the libertarian-paternalistic approach.

Disagreement with the Goal. The designers of libertarian-paternalistic policies attempt to increase public welfare, or at least what they perceive it to be. However, even in cases in which one would expect unanimous support for the intervention's goal, there still may be some who oppose it (see Vallgård 2012). For example, not all people agree that they should save more money, and, even among those who do, there is no agreement on the desirable rate of saving.

Advocates of the approach agree that nudges should be used to steer behavior only when it is clear that a large majority of the population will benefit. To minimize the potential mismatch between the individual's and the intervention's goals, Johnson et al. (2012) propose finding reliable ways to tailor a nudge to personal characteristics.

Belief That Private Decisions Are Not the Government's Business. Critics argue that people should have autonomy in any private decision that does not involve externalities,¹ and libertarian paternalism interferes with this autonomy (Fein-

¹ Note that our experiments involve interventions that influence decisions that have no direct externalities.

berg 1986; Rebonato 2012; Sugden 2008a). Issues such as nutrition are none of the government's business. It is doubtful that governments can prove that the interventions indeed enhance agents' well-being (Fumagalli 2016). Policy makers are in the end only human, and the possibility that they will fail to make the correct decision on behalf of an individual is not less likely than the individual failing to do so on his own (Glaeser 2006). Some argue that the market is a viable alternative to paternalism (Sugden 2008b).

The proponents of soft interventions argue that individuals are always influenced by the decision-making context in any case and that therefore it is better that the government be the choice architect striving to adjust it to their benefit. Sunstein (2015) argues that a nudge that corrects decision makers' biases increases individuals' autonomy since it frees them to focus on what they feel are the most important decisions.

Concerns about Manipulation. In many soft interventions, the planner manipulates the individuals without their awareness. Even if people are informed of the technical details of the intervention, they may not be aware of the relevant psychological phenomena and might not internalize the potential effect of the intervention on their decision-making. Critics argue that it is inappropriate for the government to influence the decision-making of individuals without their knowledge and consent (see, for example, Grüne-Yanoff 2012; Hansen and Jespersen 2013; Rebonato 2014; White 2013).

Thaler and Sunstein (2009, p. 11) dismiss this criticism by claiming that choices are always influenced by the architecture of the choice problem and thus the criticism is "a literal nonstarter." Sunstein (2015) discusses the concept of manipulation and argues that most nudges are not manipulative. He further argues that requiring full transparency of the government's activity of this type would limit the degree of potential manipulation. When concern remains, one should weigh the benefits against the harm of a light manipulation.

Concerns about Neglect of Personal Responsibility. Critics argue that governmental interventions in personal domains free individuals from taking personal responsibility for their choices. Thus, such interventions also encourage the development of "fragmented selves" who become dependent on the authorities for guidance (Selinger and Whyte 2011, p. 928; see also White 2011).

Sunstein (2015) argues that in many contexts decision makers ought to acquire a stock of knowledge for making a proper decision. Nudging may free individuals from such unnecessary tasks, which allows them to focus on decisions for which no one else can be responsible.

Concerns about a Slippery Slope. The success of soft interventions and their legitimacy due to their liberal appearance may pave the way for wide use of such interventions. The concern is that the interventions would be used for illegitimate purposes or to achieve goals that lack a consensus (Rizzo and Whitman 2009; Hausman and Welch 2010; Rebonato 2012).

The proponents of libertarian paternalism are aware of the risk and argue that the government should not hide its nudging activities and should inform people

of efforts to influence their choices, even at the risk of reducing the interventions' effectiveness. Sunstein (2015, p. 450) states that generalized distrust of the government may lead to restraints on nudging in a way that "will likely produce serious losses in terms of welfare, autonomy, and even dignity."

1.2. Summary of Our Results

What does the public think about libertarian-paternalistic interventions? We report the findings of three online experiments conducted among students at six universities in Germany, Israel, and the United States. The experiments elicited individuals' choices and attitudes in hypothetical scenarios that involve soft and informational governmental interventions. What follows is a summary of our main insights.

The Extent of Negative Attitudes toward Soft Interventions

We asked participants to express their attitudes toward two soft governmental interventions: setting a default saving rate with the goal of increasing personal saving and using background music in workplace cafeterias to encourage the consumption of healthy food. In almost all cases, a majority of participants regarded the soft interventions positively. However, a significant proportion (varying from 28 percent to 53 percent depending on the country and the intervention) expressed a negative attitude toward such soft interventions.

Relative Preference for Informational Interventions

We measure the preference for one intervention method over another using a methodological approach that is novel to the literature on behavior change and public policy. Participants were asked to compare sequentially a pair of interventions with a shared goal, where one intervention is soft and the other is informational. Each comparison specified the effectiveness of the interventions: the effectiveness of the informational intervention was fixed, while the effectiveness of the soft intervention varied. This allowed us to elicit the degree of effectiveness that the participant was willing to sacrifice in order that his preferred method be accepted rather than an alternative.

We found that a significant proportion of the participants preferred that the government only provide information to the public rather than implement a more effective soft intervention: 21–37 percent strictly preferred that the government introduce a smartphone application that provides information about healthy nutrition over requiring that the items on restaurant menus be ordered from most to least healthy, and 55–67 percent strictly preferred labeling healthy food over the use of background music in cafeterias to encourage the consumption of healthy food. The preferences of almost all other participants were essentially based on the effectiveness of the interventions.

Psychological Reactance

We compare two treatments in which participants were asked to consider a hypothetical arrangement of having a default saving rate instead of having to decide on one's saving rate every month. In one treatment, the arrangement was imposed by the government and participants could opt out; in another, participants chose whether to join the arrangement without the government being involved. The proportion of participants who chose to adopt the arrangement without governmental involvement is larger than the proportion who did not opt out when the government automatically enrolled them. The difference between these proportions may reflect psychological reactance to the pressure to behave in a particular manner (see Brehm 1966; Wortman and Brehm 1975). This finding differs from that of Loewenstein et al. (2015), who find that alerting individuals to the existence of a default option did not change their behavior.

Determinants of a Negative Attitude toward Soft Interventions

To investigate the motives behind the negative attitude of many of the participants toward soft interventions, we examine the extent to which their agreement with each of the five critiques listed above explains their overall attitude toward a particular soft intervention. We suggest that concerns about manipulation² and a slippery slope are largely responsible for opposition to the intervention. These concerns are also present among many of the participants who supported the intervention.

Relative Preferences for Employers' Intervention

We examined a soft intervention by employers to encourage their employees to eat healthier food. We found that in Israel and the United States, the resistance to such a soft intervention is reduced if it is implemented by employers rather than the government, whereas in Germany it made no difference.

Several studies investigate public attitudes toward soft and informational interventions. Of particular interest are Hagman et al. (2015), Sunstein (2016), Tannenbaum, Fox, and Rogers (2017), and Jung and Mellers (2016).³ Overall, our results are not inconsistent with theirs, though they differ in several key ways.

² Concerns about manipulation were also found in Felsen, Castelo, and Reiner (2013), who consider interventions by employers. They find that participants were more favorable to an intervention that activates a conscious process than one that activates an unconscious process.

³ Hagman et al. (2015) present surveys in Sweden and the United States and report general acceptance of nudges; however, a majority of respondents also found the nudges to be intrusive. Sunstein (2016) surveyed a representative sample in the United States and elicited views on informational and soft interventions. He finds that a class of popular nudges was supported by a majority of the subjects when asked whether they approve or disapprove of the intervention. The proportion of subjects who opposed nudges in his survey is somewhat smaller than in our sample. Tannenbaum, Fox, and Rogers (2017) find that in the United States the political affiliation of the initiator of an intervention (that is, Republican or Democrat) and whether the goal is part of a liberal or conservative agenda largely determines whether an individual supports it. Jung and Mellers (2016) examine attitudes in the United States toward a variety of interventions, some of which utilized system I (such as setting

First, we find that a small but significant proportion of participants behave as if they are protesting against the intervention by contrarily not making the choice being encouraged by the government. Second, in previous studies, participants were asked to state whether, or to what extent, they support an intervention. The answers might reflect the extent of agreement with the intervention's goal and an estimation of its effectiveness rather than the attitude toward its method. Our approach of comparing two interventions with the same goal and different degrees of effectiveness makes it possible to elicit participants' attitudes toward the intervention's method independent of their support for its goal and their beliefs about its effectiveness. Third, we investigate the motives behind negative attitudes toward soft interventions and the presence of these sentiments even among supporters of the interventions. Finally, we examine whether opposition to an intervention is reduced if it is implemented by an employer rather than the government.

The structure of the paper is as follows: In Section 2, we present the methodology. In Section 3, we present the results for the extent of opposition toward soft interventions. In Section 4, we investigate which arguments against soft interventions are dominant among those who oppose them. In Section 5, we compare the opposition to soft interventions when they are implemented by the government with that when they are implemented by an employer. Section 6 concludes with some brief comments on potential applications of the results.

2. Method

We conducted three studies, each of which concerns a different soft intervention to encourage either increased saving or a healthier diet. The experiments were administered online among undergraduate students at six universities: two in Germany (the University of Hamburg and the University of Mannheim), two in Israel (Ben Gurion University and Tel Aviv University), and two in the United States (New York University and Ohio State University).⁴

2.1. Study 1: Automatic Enrollment to Encourage Saving

Participants were randomly assigned to one of treatments T_1 , T_2 , and T_3 .⁵ Participants responded to a sequence of questions about their attitudes toward hypothetical governmental interventions. They were asked to imagine that they

defaults) and others that utilized system II (such as providing information). The results indicate that people tend to view most system II nudges as being more effective and also more acceptable.

⁴ Invitations to participate were sent by e-mail. To encourage participation, one of every 20 participants was randomly selected to receive a fixed amount of money (independent of his or her responses) that was roughly equivalent to \$30. The proportions of men and women were similar.

⁵ The number of participants in Germany was 345 (96, 117, and 132 in treatments T_1 , T_2 , and T_3 , respectively); in Israel, 462 (159, 150, and 153); and in the United States, 310 (111, 102, and 97). These numbers do not include the 5 percent of the participants who spent the least time reading the first screen in the experiment.

Table 1
Description of the Treatments in Study 1

	Treatment 1	Treatment 2	Treatment 3
Screen 1	Would you opt in independently (without the intervention)?	Attitude toward the soft governmental intervention	Would you opt out after the soft governmental intervention?
Screen 2	Attitude toward the soft governmental intervention	Would you opt out after the soft governmental intervention?	Attitude toward the soft governmental intervention

Note. The soft governmental intervention requires employers to set 8 percent as a default saving rate for their employees.

worked for a firm at which employees had the opportunity to deposit between 0 percent and 8 percent of their salaries in a special savings account that offered an attractive interest rate, with the restriction that the money would be available only after 10 years. Initially, the employees had to choose a rate of saving every month. A new arrangement was then offered that involved a default rate of saving from their salary, with the goal of increasing their rate of saving.

In treatment T_1 , which did not involve any governmental intervention, participants chose between determining the saving rate each month and joining (opting into) the default saving arrangement in which 8 percent of their salary was automatically deducted and deposited in the savings account, unless the employee provided a one-time instruction to cancel the arrangement (and then went back to determining the rate every month). In treatment T_3 , the government required employers to set 8 percent as a default saving rate for their employees, and the participants needed to decide whether to opt out of the default arrangement. In both treatments T_1 and T_3 , the second question examines how the participant feels (ranging from very positive to very negative and scored 1–4 in the data) about the government imposing automatic enrollment in the default saving arrangement. Treatment T_2 is similar to treatment T_3 except that the order of the questions is reversed. In all screens presented to the participants, the order of the possible answers was determined randomly (see Online Appendix OA for the appearance of the screens). Table 1 summarizes the structure of the experiment.

The objective of study 1 was to understand how individuals react when they are made aware of a soft intervention. We measure the proportion of participants who expressed a negative attitude toward the government's soft intervention and the extent of opposition to the government's intervention in treatment T_1 among individuals who intended to opt into the default saving arrangement regardless (without the government's automatic enrollment). We also test whether psychological reactance (Brehm 1966) led some participants to opt out of the arrangement in treatments T_2 and T_3 even though they probably would have joined it had there been no intervention (T_1).

2.2. Study 2: Ordering Menu Items to Increase the Selection of Healthy Dishes

Study 2 consisted of five randomly assigned treatments: T_1 , T_2 , T_3 , T_4 , and T_5 .⁶ (Treatments T_3 , T_4 , and T_5 are used to check the robustness of the results and are presented in Online Appendix OB.) In each treatment, participants were presented with a hypothetical scenario in which the government was considering various interventions intended to improve the public's eating habits and in particular decrease the consumption of fatty foods. We considered four governmental actions (interventions) in treatments T_1 and T_2 . In the first treatment, restaurants would be prohibited from serving extremely fatty food on Wednesdays—a hard intervention. In the second treatment, the government would impose a tax on extremely fatty foods served in restaurants, which will be added to the price of a meal—a hard intervention. The third treatment would require restaurants to order the items on a menu from most to least healthy⁷—a soft intervention. In the fourth treatment, the government would provide information through a smartphone application that will make available information on the nutritional value of the items on every restaurant's menu—an informational intervention.

In each of the treatments, participants were asked to compare pairs of governmental actions. Each comparison of actions X and Y consisted of two questions. The first asked the participant to compare the actions, given that they are equally effective in improving the public's eating habits, on a five-point scale: "greatly prefer X," "slightly prefer X," "no preference," "slightly prefer Y," and "greatly prefer Y" (see screen 3 in study 2 in Online Appendix OA). This question was included only to facilitate the participant's understanding of the second question, which asked for more precise information and is the core question of this study. The results for the two questions are largely consistent, and therefore we report only the results of the second.

The second question was designed to elicit a participant's subjective trade-off between the effectiveness and desirability of the intervention method. We defined effectiveness in the following manner: "The World Health Organization has determined that consumption of unhealthy food above a certain level is significantly harmful to human health. . . . The improvement in public nutrition resulting from any government action is measured according to the percentage of the population that moves below this level as a result of the action." Participants were asked to indicate their preference between the government's actions X and Y in each row of a table structured as shown in Figure 1 (namely, given various relative levels of effectiveness of X and Y). Participants revealed a strong preference for action X by choosing it even in cases in which action Y is expected to be more effective, and vice versa.

⁶ The number of participants in Germany was 600 (120, 135, 96, 117, and 132 in treatments T_1 , T_2 , T_3 , T_4 , and T_5 , respectively), in Israel 740 (136, 142, 159, 150, and 153), and in the United States 549 (121, 118, 111, 102, and 97). These numbers do not include the 5 percent of the participants who spent the least time reading the first screen in the experiment.

⁷ To enhance transparency, the text explained that this method is based on psychological research indicating that people tend to choose items at the beginning of a list.

Improvement after Choosing		I would choose	
Action X	Action Y	__ Action X	__ Action Y
8%	20%	__ Action X	__ Action Y
12%	20%	__ Action X	__ Action Y
16%	20%	__ Action X	__ Action Y
20%	20%	__ Action X	__ Action Y
24%	20%	__ Action X	__ Action Y
28%	20%	__ Action X	__ Action Y
32%	20%	__ Action X	__ Action Y

Figure 1. Elicitation of preferences in study 2

We find the tool shown in Figure 1 to be more suitable for eliciting attitudes toward public policies than commonly used measures such as indicating approval or disapproval or rating support according to some scale. It provides more information than an abstract question such as “How much do you support the new policy?” since it forces the participants to express their subjective trade-offs between the effectiveness of an intervention and the desirability of its method. Furthermore, the evaluation of a policy is sensitive to the policy’s estimated effectiveness and in real life is almost always done in comparisons with alternatives.

In treatments T_1 and T_2 , participants were asked to compare the order of items on a menu (a soft intervention) with the smartphone application (an informational application) and to compare either the food tax or prohibition on serving the food (both of which are hard interventions) with the smartphone application. This makes it possible not only to assess the resistance of participants to soft and hard interventions but also to examine the correlations between their attitudes toward the two types of interventions (see Online Appendix OB).

To determine the extent to which participants do not support any intervention of the sort discussed here, we preceded treatments T_1 and T_2 with background information about the issue of consumption of unhealthy food and asked participants whether they think the government should intervene to improve the public’s eating habits (see screen 2 of study 2 in Online Appendix OA). Those who answered no were not asked to compare pairs of governmental actions but were asked to explain their responses (see screen 3 for those who responded no in Online Appendix OA). Those who answered yes were asked to compare pairs of policies, as described above. A summary of the two treatments appears in Table 2.

The objective of study 2 was to measure the proportion of participants who object to any governmental intervention in the public’s eating habits (screen 1) and the proportion in treatments T_1 and T_2 who have strong preferences for informational interventions and are ready to sacrifice effectiveness so that the application intervention (rather than the order intervention) is adopted.

Table 2
Description of Treatments 1 and 2 in Study 2

	Treatment 1	Treatment 2
Screen 1: Should the government intervene?	Continue if "Yes" (otherwise, explain why)	Continue if "Yes" (otherwise, explain why)
Screen 2: Comparison when equally effective	Tax or application	Order or application
Screen 3: Trade-off comparison	Tax or application	Order or application
Screen 4: Comparison when equally effective	Order or application	Prohibition or application
Screen 5: Trade-off comparison	Order or application	Prohibition or application

2.3. Study 3: Background Music to Encourage a Healthier Diet

Participants were randomly assigned to one of two treatments, T_G and T_E .⁸ In T_G , participants responded to a sequence of questions about their attitudes toward hypothetical governmental interventions that seek to encourage healthy eating habits in the workplace. Treatment T_E is identical except that intervention was by employers. We describe only the main treatment, T_G , which consisted of four screens (see Online Appendix OA).

Screen 1: Attitudes toward a Green-Labeling Intervention. Participants were told that there is growing awareness that most of the population consumes too much unhealthy food. They were presented with a scenario in which the government has decided to take action to reduce the consumption of unhealthy food by requiring workplace cafeterias to mark healthy foods with a green label. The participants rated their attitude to such an intervention on a scale from very positive to very negative (and scored 1–5 in the data).

Screen 2: Attitudes toward a Background-Music Intervention. Participants were told that psychological studies have shown that background music unconsciously affects people's consumption habits (see, for example, Hansen and Melzner 2014). They were then asked to assume that background music of a certain type induces people to refrain from eating unhealthy food and that the government has decided to reduce the population's consumption of unhealthy food by requiring workplace cafeterias to play this type of background music. Again, the participants rated their attitudes to such an intervention on a scale from very positive to very negative. Note that this type of intervention is not all that far-fetched given that background music is a commonly used marketing tool (see Bruner 1990; North and Hargreaves 2010).

Screen 3: Reaction to Statements about the Background-Music Intervention. The third screen constitutes the core of study 3. We composed the following five statements that correspond to the five critiques discussed in the introduction. Participants were asked to what extent they agree with each of the statements

⁸ The study was conducted like studies 1 and 2 except that only three universities took part: the University of Hamburg, Tel Aviv University, and Ohio State University. The number of participants in Germany was 219 (114 in treatment T_G); in Israel, 155 (73 in treatment T_G); and in the United States, 213 (112 in treatment T_G). These numbers do not include the 5 percent of the participants who spent the least time reading the first screen in the experiment.

(strongly agree, tend to agree, neutral, tend to disagree, or strongly disagree; responses were scored 1–5 in the data).

Statement 1. Citizens should significantly reduce the consumption of unhealthy food.

Statement 2. The nutrition of the citizens is not the government's business.

Statement 3. It is inappropriate for the government to influence the personal decision of citizens without their knowledge.

Statement 4. There is a concern that this sort of intervention may lead citizens to absolve themselves from their personal responsibility for their health.

Statement 5. Successful intervention is likely to lead the government to try to similarly influence citizens' decisions in areas where there is no consensus on the appropriate choice.

Screen 4: Trade-off between Desirability and Effectiveness of the Interventions. We used the same type of question as in study 2 (see Figure 1). Participants were asked to compare the green-labeling and background-music interventions, assuming various differences in their effectiveness.

This main goal of study 3 was to investigate the reasons for negative attitudes toward some soft interventions. This is accomplished by examining the participants' reactions to statements 1–5 and the connection between participants' extent of agreement with the statements and their general attitude toward the background-music soft intervention. Statement 1 is intended to screen out the participants who did not agree with the goal of the intervention. Statements 2–5 correspond to the four main reasons for opposing soft interventions discussed in Section 1.

3. Evidence for the Extent of Opposition to Soft Interventions

In what follows, we discuss each of the three soft interventions: automatic enrollment to encourage saving, ordering of menu items to increase the selection of healthy food, and background music in a cafeteria to encourage healthier choices. We present the results from the three countries and focus on the common patterns rather than the differences.

3.1. Study 1: Opposition to Automatic Enrollment to Encourage Saving

Negative Attitudes toward the Soft Governmental Intervention

The results indicate that although a majority of the participants (except in Germany) have a positive attitude toward the soft intervention, a sizable proportion (across all treatments: 53 percent in Germany, 28 percent in Israel, and 42 percent in the United States) have a negative attitude.⁹

⁹ The 95 percent confidence intervals are 48 percent and 58 percent in Germany, 24 percent and 32 percent in Israel, and 36 percent and 48 percent in the United States.

Table 3
Negative Attitudes toward the Government's Automatic Enrollment Intervention

	Germany		Israel		United States	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Opt in independently in treatment T ₁	59	71	26	126	42	87
Do not opt in independently in treatment T ₁	85	25	64	33	74	24
All participants in treatment T ₁	66	96	34	159	50	111
All participants in treatments T ₂ and T ₃	48	249	25	303	38	199

The proportions of participants with a negative attitude toward automatic enrollment in the three treatments are presented in Table 3. The data for treatments T₂ and T₃ were merged since we did not find any order effect. We also pooled the participants who expressed negative and very negative attitudes and those who expressed positive and very positive attitudes since less than 20 percent of the participants expressed the two extreme positions.

The attitudes in treatment T₁ are somewhat more negative than in treatments T₂ and T₃, probably because participants in treatment T₁ were more aware that instead of the government's soft intervention the individuals could have simply been asked whether they were interested in the default arrangement (as in screen 1 of treatment T₁). As expected, a negative attitude is more common among participants in treatment T₁ who stated that they would not opt into the arrangement if offered to do so independently (without governmental involvement) than among those who stated that they would. However, even among participants who said that they would opt into the arrangement independently, a considerable proportion in all three countries felt negatively about the soft governmental intervention of imposing automatic enrollment.

Reactance to the Government's Intervention

The percentage of participants who chose not to opt out when they became aware of the government's intervention is smaller than the percentage who chose to opt in when the government was not involved (Table 4). The gap in Israel is small (9–11 percent) but statistically significant ($\chi^2(1) = 4.37, p < .05$). The gap in the United States is larger (13–18 percent), and that in Germany is the largest (19–32 percent); the gap in both cases is highly statistically significant ($\chi^2(1) = 7.74, p < .01$ and $\chi^2(1) = 16.52, p < .01$, respectively).

Thus, the default arrangement is perceived as attractive when the government is not involved, which is reflected in the high percentage of those choosing to opt in in treatment T₁. Nevertheless, for a not insignificant proportion of participants, the arrangement becomes undesirable when the government makes it the default. This may be a reflection of a psychological reaction to the government's intervention.

Table 4
Study 1: Reactions to Governmental Involvement

	Germany		Israel		United States	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Opt in (T ₁)	74	96	79	159	78	111
Do not opt out (T ₂)	42	117	70	150	60	102
Do not opt out (T ₃)	55	132	68	153	65	97

Note. Results are the percentage of participants who opt in with no governmental involvement and who do not opt out with governmental involvement.

3.2. Study 2: Opposition to the Ordering of Menu Items

Objection to Any Governmental Intervention. In total, 19 percent of the participants in Germany, 14 percent in Israel, and 25 percent in the United States indicated in screen 1 that the government should not intervene in any way.¹⁰ Most of them (76–80 percent) chose the explanation that it is not the government's business to intervene in the private domain. The results for treatments T₁ and T₂ presented in the rest of this section relate only to participants who indicated that some form of governmental action is justified in this context.

Preference for Information. We now turn to the comparison between interventions under different assumptions about their effectiveness (Figure 1). If a participant prefers action X to action Y even in cases in which action Y is more effective (as in the first three rows in the figure), we label him as strictly preferring action X and vice versa. If he always chooses the more effective intervention, we label him as exhibiting no trade-off (between the subjective desirability of the intervention's method and its effectiveness).

Table 5 presents a summary of the preferences in treatments T₁ and T₂ for the comparison of the order and application interventions.¹¹ A majority of the participants consistently prefer the intervention that is more effective. However, 21–37 percent of the participants strictly prefer the application to the order intervention even at the price of reduced effectiveness.¹² Similarly, 19–54 percent of the participants strictly prefer a governmental information campaign over an order intervention (treatment T₅; see Online Appendix OB).¹³ Note that the group of respondents who strictly prefer the application intervention includes individuals

¹⁰ The 95 percent confidence intervals are 14 percent and 24 percent in Germany, 10 percent and 18 percent in Israel, and 20 percent and 30 percent in the United States.

¹¹ In the presentation of the results, we exclude participants whose answers to questions structured like those in Figure 1 were not monotonic.

¹² The 95 percent confidence intervals are 33 percent and 44 percent in Germany, 29 percent and 41 percent in Israel, and 15 percent and 27 percent in the United States.

¹³ In the main treatments that included the order intervention, treatments T₁ and T₂, we added to the description of the intervention a short summary of the typical arguments for and against soft interventions in general. In treatment T₅, this summary was omitted. This did not qualitatively affect the results.

Table 5
Study 2: Comparison of the Order and
Application Interventions

	Germany (<i>n</i> = 206)	Israel (<i>n</i> = 239)	United States (<i>n</i> = 180)
Strictly prefer order	13	9	13
No trade-off	50	55	66
Strictly prefer application	37	35	21

Note. Values are proportions of participants in treatments 1 and 2.

who are willing to sacrifice 4 percent, 8 percent, or at least 12 percent in effectiveness for their preferred intervention to be adopted. In fact, almost half of the individuals in this group were willing to sacrifice at least 12 percent in effectiveness.

3.3. Study 3: Opposition to Background-Music Intervention

The results reported here are for treatment T_G , in which the government intervenes in an attempt to reduce the consumption of unhealthy food. The results of treatment T_E , in which the employer initiates the intervention, are reported in Section 5.

Negative Attitudes toward Governmental Intervention. A majority of the participants positively viewed this soft intervention by the government; nonetheless, a considerable proportion of the participants—35 percent in Germany, 45 percent in Israel, and 31 percent in the United States¹⁴—viewed it negatively (responding “negative” or “very negative” to the second question).

Preference for Information. In contrast to the attitude toward the background-music intervention, a negligible proportion of the sample (6 percent in Germany, 4 percent in the United States, and none in Israel) viewed the green-labeling informational intervention (the first question) negatively. The preference for the green-labeling informational intervention over the background-music intervention is also reflected in the results of the fourth question, the trade-off question: a majority of participants (55–67 percent) are willing to sacrifice effectiveness for the green-labeling intervention to be adopted rather than the background-music intervention (see Table 6).¹⁵

3.4. Summary of the Measured Opposition

We summarize the extent of opposition according to two of the measures used in the studies. First, the standard method of eliciting participants’ attitudes using a scale shows that 28–53 percent of the participants hold a negative attitude toward automatic enrollment, and 31–45 percent have a negative attitude toward

¹⁴ The 95 percent confidence intervals are 26 percent and 44 percent in Germany, 34 percent and 56 percent in Israel, and 22 percent and 40 percent in the United States.

¹⁵ As in study 2, we exclude the participants whose answers were not monotonic.

Table 6
Study 3: Comparison of the Government's Background-Music and Green-Labeling Interventions

	Germany (<i>n</i> = 106)	Israel (<i>n</i> = 72)	United States (<i>n</i> = 107)
Strictly prefer music	5	0	1
No trade-off	34	33	44
Strictly prefer labels	61	67	55

Note. Values are proportions of participants in treatment T_G .

the background-music intervention. Although the scale used in the two studies is not identical, the degree of the negative attitude toward the two interventions appears to be similar.

Second, the elicitation of participants' trade-off between effectiveness and the desirability of the intervention method showed that 21–37 percent strictly prefer a smartphone application (an informational intervention) over the menu-ordering intervention, and 55–67 percent strictly prefer the green-labeling informational intervention over the background-music intervention. (Although these two soft interventions share the goal of encouraging a healthier diet, we do not use the results to compare the opposition toward the method of intervention because the alternative informational intervention differs between the two studies.)¹⁶ The results suggest that a large proportion of the participants prefer an intervention that provides information about the nutritional value of the dishes over one that manipulates them to eat healthier food, even if the latter is more effective.

4. Evidence for the Reasons for Opposition to Soft Interventions

In this section, we use the results for treatment T_G in study 3 to investigate the potential determinants of a negative attitude toward soft governmental interventions. Recall that the second question elicited the attitude toward the government's background-music intervention, while the third question elicited the level of agreement with various statements regarding this intervention, each of which correspond to a potential reason for opposition to the intervention and to soft interventions in general: disagreement with the intervention's goal, a belief that what people eat is not the government's business, concerns about being manipulated, concerns about neglecting personal responsibility, and slippery-slope concerns. Here we explore the link between agreeing with each of these statements and the attitude toward the intervention.

While there was considerable opposition to the method of the background-music intervention, there was almost no objection to the goal of the intervention,

¹⁶ Moreover, in study 2, the group of participants who were asked about the menu-ordering intervention does not include the 14–25 percent of participants who believe that there is no justification for any intervention.

that is, reducing the consumption of unhealthy food (3 percent in Germany, 4 percent in the United States, and none in Israel).

To gain further insight into the reasons for opposition to the background-music soft intervention, despite agreeing with its goal, we eliminate the (very few) individuals who did not support the goal and test the other potential reasons among the remainder of the participants. In particular, we examine the link between the attitude toward the intervention and the views reflected in the responses to statements 2–5 regarding the intervention’s method and potential consequences. Table 7 compares the views between two groups, namely, those who hold a negative attitude toward the intervention (answered “negative” or “very negative” to the second question) and the rest.

In all three countries, people who hold a negative attitude toward the intervention tend to agree more with statements 2–5, although in some cases this tendency is not very pronounced. The correlation between a negative attitude toward the intervention and the level of agreement with each of the statements suggests the following relationships: a negative attitude is related to agreement with all the statements except for concerns about neglecting personal responsibility in Germany and “it is not the government’s business” in the United States. In Germany, the strongest correlation is with concerns about manipulation (Pearson’s $r = .45$, $p < .001$); in Israel, the strongest correlations are with concerns about manipulation (Pearson’s $r = .47$, $p < .001$) and a slippery slope (Pearson’s $r = .45$, $p < .001$); and in the United States, the strength of the correlation is roughly the same for concerns about manipulation (Pearson’s $r = .22$, $p < .05$), neglecting personal responsibility (Pearson’s $r = .27$, $p < .01$), and a slippery slope (Pearson’s $r = .26$, $p < .01$).

To understand the relative importance of each factor in explaining the attitude toward the intervention, we estimated a linear regression with attitude (scored 1–5) as the dependent variable and agreement with four of the statements (2–5) as explanatory variables.¹⁷ The results appear in Table 8.

In Germany, only concerns about manipulation affect attitudes both strongly and negatively. In Israel, concerns about manipulation negatively affect attitudes more than concerns about a slippery slope. In the United States, concerns about personal responsibility negatively affect attitude as do slippery-slope concerns. Thus, the regression analysis suggests that concerns about manipulation and the slippery slope are the most prominent reasons for opposition; each is a major factor in explaining the negative attitude in two of the three countries in the study, and it appears that the effect of concerns about manipulation is somewhat larger.

Interestingly, about half of the participants who do not oppose the background-music intervention have concerns about manipulation (43 percent, 50 percent, and 58 percent in Germany, Israel, and the United States, respectively) and the slippery slope (43 percent, 63 percent, and 60 percent, respectively). The agreement among this group with the statement that “it is not the government’s busi-

¹⁷ Adding the level of agreement with the intervention’s goal (statement 1) does not qualitatively change the results.

Table 7
Average Levels of Agreement with Statements about the Government's Background-Music Intervention

	Germany		Israel		United States	
	Negative (n = 37)	The Rest (n = 74)	Negative (n = 33)	The Rest (n = 40)	Negative (n = 34)	The Rest (n = 74)
Not the government's business	3.03 (1.26)	3.61 (1.04)	3.27 (1.1)	3.80 (.85)	3.00 (1.28)	3.11 (.95)
Manipulation	1.65 (.92)	2.74 (1.09)	1.64 (.93)	2.53 (.78)	1.91 (1.08)	2.42 (1.05)
Personal responsibility	2.68 (1.00)	3.07 (1.01)	2.91 (1.26)	3.43 (1.06)	2.35 (1.13)	2.99 (1.01)
Slippery slope	2.08 (.95)	2.58 (.92)	1.58 (.75)	2.55 (1.13)	1.91 (.87)	2.43 (.94)

Note. Results are for treatment T_G in study 3. Standard deviations are in parentheses.

Table 8
Study 3: Attitudes toward the Government's
Background-Music Intervention

	Germany	Israel	United States
Not the government's business	-.07 (.09)	.02 (.15)	.03 (.11)
Manipulation	-.48** (.09)	-.44* (.17)	-.10 (.11)
Personal responsibility	.04 (.10)	-.08 (.12)	-.21* (.11)
Slippery slope	-.11 (.11)	-.27+ (.14)	-.20+ (.12)
R^2	.28	.24	.11
N	111	73	108

Note. Values are coefficients from a linear regression in which the dependent variable is attitude toward the governmental background-music intervention. Standard errors are in parentheses.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

ness" was much lower (18 percent, 8 percent, and 31 percent, respectively), and concerns about taking personal responsibility were not particularly common either (35 percent, 25 percent, and 35 percent, respectively).

5. Attitudes toward Interventions by Employers

In this section, we compare the results of treatment T_E in study 3, in which the employer implements the background-music intervention, to those in treatment T_G , in which the government implements it. When asked to express their attitudes toward a background-music intervention by an employer, the proportions of participants who expressed a negative attitude were 25 percent in Germany, 18 percent in Israel, and 14 percent in the United States.¹⁸ In all three countries, the proportion is lower than when the government implements the same intervention, though this pattern is weak in Germany ($\chi^2(1) = 2.77$, $p < .1$ in Germany; $\chi^2(1) = 13.09$, $p < .001$ in Israel; $\chi^2(1) = 9.07$, $p < .01$ in the United States).¹⁹ With regard to the green-labeling intervention, however, there are no significant differences in attitude among countries whether it is the employer who implements it or the government ($p = .23$ in Germany, $p = .27$ in Israel, and $p = .51$ in the United States).

There are only small differences between the two treatments in the results for

¹⁸ The 95 percent confidence intervals are 16 percent and 34 percent in Germany, 10 percent and 26 percent in Israel, and 7 percent and 21 percent in the United States.

¹⁹ Similarly, in Israel and the United States, the distribution of attitudes (between 1 and 5) is significantly more positive ($p < .001$ and $p < .01$, respectively) according to a Mann-Whitney U test, though in Germany there is no significant difference ($p = .32$).

Table 9
Study 3: Comparison of the Background-Music and Green-Labeling Interventions, Employers versus the Government

	Germany		Israel		United States	
	T _E (n = 101)	T _G (n = 106)	T _E (n = 81)	T _G (n = 72)	T _E (n = 95)	T _G (n = 108)
Strictly prefer music	7	5	0	0	8	1
No trade-off	35	34	41	33	56	44
Strictly prefer labels	58	61	59	67	36	55

Note. Values are the proportions of participants who strictly prefer each of the interventions in treatments T_E and T_G.

the trade-off between the desirability of the intervention's method and its effectiveness. As in the results for treatment T_G, a majority of the participants in treatment T_E (58–59 percent) prefer the informational intervention even at the cost of effectiveness, except in the United States, where the proportion is only 36 percent (see Table 9).

Table 10 presents the average extent of agreement with statements 2–5 among participants in treatments T_E and T_G. Most noticeable is that in Israel and Germany there is more agreement with the statement that it is not the employer's business than with the statement that it is not the government's business ($p < .001$) according to a Mann-Whitney U test, while in the United States there is no significant difference between the treatments ($p = .53$). In the United States, there is also less agreement with the other three statements in the scenario with an employer than in the scenario with the government ($p < .01$), which indicates that the participants are more positive toward interventions by an employer. In Germany and Israel, there is a smaller difference in agreement with these three statements between the treatments.

With regard to the link between a negative attitude toward the background-music intervention by an employer and statements 2–5 concerning the employer's intervention, we find that in Germany and Israel, a negative attitude is correlated with all statements except for concerns about neglecting personal responsibility, whereas in the United States it is correlated with all the statements except that it is not the employer's business. Furthermore, a linear regression analysis (like that conducted for treatment T_G) suggests that in Germany and Israel the concern about manipulation is the main factor affecting the attitude toward the intervention ($\beta = -.29$ and $\beta = -.63$, respectively; $p < .001$), whereas in the United States concerns about manipulation and neglecting personal responsibility are the main factors ($\beta = -.28$ and $\beta = -.36$, respectively; $p < .01$).

To conclude, the results indicate that the attitude toward the background-music intervention is somewhat more positive when it is implemented by one's employer than by the government. Concerns about manipulation (though not the slippery slope) are found to be the most common reason for a negative attitude toward soft interventions by an employer.

Table 10
Average Levels of Agreement with Statements about the Background-Music Intervention: Employers versus the Government

	Germany		Israel		United States	
	T _E (n = 91)	T _G (n = 111)	T _E (n = 79)	T _G (n = 73)	T _E (n = 94)	T _G (n = 108)
Not the employer's (government's) business	2.80 (1.06)	3.41 (1.15)	2.97 (.92)	3.56 (1.00)	2.97 (1.02)	3.07 (1.06)
Manipulation	2.55 (1.23)	2.38 (1.15)	2.39 (1.04)	2.12 (.96)	2.68 (1.09)	2.26 (1.08)
Personal responsibility	3.18 (1.08)	2.94 (1.02)	3.67 (1.10)	3.19 (1.17)	3.34 (.90)	2.79 (1.09)
Slippery slope	2.34 (1.00)	2.41 (.96)	2.49 (1.04)	2.11 (1.09)	2.74 (1.03)	2.27 (.94)

Note. Results are for treatments T_E and T_G in study 3. Standard deviations are in parentheses.

6. Discussion

We conducted a series of experiments to shed light on the public's attitude toward the intervention methods advocated by libertarian paternalism. The responses provide several indications of a negative attitude toward soft interventions. First, we found a fairly high level of negativity toward automatic enrollment into the saving arrangement and the background-music intervention. Second, the choices of a significant number of participants in the automatic-enrollment study are consistent with psychological reactance. Third, a significant number of participants prefer an informational intervention over the ordering of menu items and the background-music intervention, which attempt to influence a participant's choice without his awareness. The method used in the intervention is important to this group, and they are willing to pay a price in terms of effectiveness to avoid an undesirable method of intervention. Fourth, the aforementioned indications of opposition to soft interventions are in addition to the existence of a group (14–25 percent of the participants) who feel that governments should not intervene at all in the private domain.

We also confirmed that a large number of people have concerns about the manipulative nature of soft interventions. In addition, they fear that acquiescence to the approach will lead to further interventions implemented by a government that presumes to know what is good for its citizens and justifies its intervention by arguing that freedom of choice is not being violated. The findings provide some practical insights for the implementation of soft interventions. First, the findings for reactance to manipulation suggest that an intervention involving an automatic opt-in method might be less effective than simply suggesting to people that they opt in. The latter option might improve the material outcome and diminish the negative emotional reaction to soft interventions. Second, although the provision of information may be less effective than some types of soft interventions, many people are willing to sacrifice effectiveness to avoid a less desirable method, and therefore informational interventions may be socially preferable in cases in which the loss of effectiveness is small. Third, decision makers should reduce the concerns of the public regarding soft interventions by explicitly informing and reminding people that their choices are being manipulated and by constraining themselves from intervening in issues that lack a broad consensus among the public.

To conclude, our findings raise doubts about the claim that soft interventions are unambiguously welfare improving. An individual's welfare is not determined solely by the material consequences of an action but by nonmaterial aspects as well. In particular, people often care about the method used to achieve the material outcome (see, among others, Chlass, Güth, and Miettinen 2014; Eliaz and Rubinstein 2014; Wailoo and Anand 2005). Thus, when considering the welfare effects of an intervention, account should be taken of the reaction to the method used rather than just the direct consequences of the intervention. Policy makers should consider the support for an intervention's goal along with the opposition to its method.

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