# Is Status Quo Bias Explained by Anchoring? Evidence from Survey Experiments \*

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#### Abstract

In a seminal paper, Samuelson and Zeckhauser (1988) have shown that people stick to the status quo more frequently than predicted by standard economic theory and labeled this phenomenon "status quo bias". This paper uses large survey experiments within the classroom and the German Internet Panel (GIP) with more than 1,500 respondents to improve our understanding of *why* people actually exhibit this behavior. Is it due to some form of economic reasoning or to cognitive causes? One of the most prominent explanations in the literature is "anchoring". This cognitive misperception leads people to make judgments that are biased towards initially presented values. The results indeed suggest that anchoring alone (as opposed to explanations based on economic reasoning) can cause one half of the whole effect referred to as status quo bias. To my knowledge, this is the first paper to quantitatively disentangle anchoring from other explanations of status quo bias. My results have implications for the design of surveys and experiments.

Key words: Status Quo Bias, Anchoring, Surveys, Stated Preferences, Captcha

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# 1 Introduction

In a seminal paper, Samuelson and Zeckhauser (1988) used several survey experiments and field studies to show that people stick to the status quo choice or policy more frequently than predicted by standard economic theory. Everyday examples are returning to the same vacation spot each year or the incumbency advantage in politics. One example investigated by Samuelson and Zeckhauser (1988) is the following: In a survey experiment, they put respondents into the hypothetical role of a commissioner distributing water between a town and farmers during a dry period by choosing one out of ten different options where one of the options was framed as status quo. They found that in treatments where a more farmers-friendly distribution was framed as the status quo respondents actually chose a more farmers-friendly option, with a town-friendly status quo respondents chose a town-friendly option. They labelled this behavior "status quo bias" and outlined several possible explaining theories for it - ranging from rational ones based on economic reasoning such as transition cost to cognitive misperceptions such as anchoring. However, their paper remains silent about how to disentangle the different explanations. The purpose of this paper is to use survey experiments to improve our understanding of why people overly stick to the status quo and to empirically disentangle different explanations of status quo bias. More specifically, I aim to show how quantitatively important anchoring is as an explanation.

Anchoring describes the phenomenon that people's judgments are biased towards initially presented values. Tversky and Kahneman (1974) were among the first to analyze anchoring. They had people turn a wheel of fortune with numbers from 0 to 100 that was manipulated to show only the numbers 10 or 65 as result (as an "anchor") and asked them afterwards to estimate the number of African countries in the United Nations. People in the anchor 10 group gave a median estimate of 25, people in the anchor 65 group gave a median estimate of 45. Another very prominent illustration of the anchoring effect was given by Ariely et al. (2003): They asked people for the last two digits of their social security number<sup>1</sup> (as an "anchor") and presented them a bottle of wine afterwards. Then they asked if people would be willing to pay more or less than the just stated (social security number digits) number in dollars for the wine. They also asked for the exact maximum willingness to pay in a follow-up question. Surprisingly, it turns out that there is a very robust positive correlation between the social security number digits and the willingness to pay for the wine.<sup>2</sup> Anchoring might therefore be a very relevant factor contributing to status quo bias, especially when numbers are involved like in several examples presented by Samuelson and Zeckhauser (1988). In short, anchoring is a "cognitive misperception" that is seen by Samuelson and Zeckhauser (1988) as "the best explanation" of status quo bias (p. 41).

This paper aims at disentangling anchoring from economic reasoning causes of status quo bias and also at making a first step towards quantifying the anchoring effect in relation to them. Although status quo bias and anchoring are ubiquitous phenomena to analyze, I restrict attention to survey questions as a natural application in this study. Opinion polls via surveys

<sup>&</sup>lt;sup>1</sup>The first ones to use social security numbers in a similar context were Chapman and Johnson (1999).

 $<sup>^{2}</sup>$ This result has, for example, recently been replicated by Bergman et al. (2010) and contested by Fudenberg et al. (2012) and Maniadis et al. (2014).

are one of the main devices in representative democracies to get to know citizens' preferences for wide ranges of topics. Besides, survey data find increasing use in economics (e.g. Alesina et al. (2014)) and surveys are well suited for implementing large-scale experiments (e.g. Cruces et al. (2013)). To my best knowledge, this is the first study to isolate and quantify anchoring from other causes of status quo bias in stated preferences.<sup>3</sup> For that purpose, large survey experiments asking for repondents' policy preferences have been conducted.

Better understanding the relevance of anchoring in shaping status quo bias is an interesting endeavor for at least three reasons: First, we really need to understand better *why* people overly want to stick to the status quo at a very general level. Is it due to cognitive causes or some form of economic reasoning? – If people typically have good reasons for not wanting to change the status quo or have at least seriously thought about it, then politicians may in the end simply have to accept it. However, if it turns out that people always pick the status quo just because of cognitive anchoring and do not really think about the issue at hand at all, it may in fact be a worthwhile political endeavour to try to convince voters that more political reforms may actually be beneficial. Better understanding the causes of status quo bias can in that sense inform politics and the general public about how to optimally deal with status quo bias in politics and elsewhere.

Second, we need to know a lot more about how status quo bias and anchoring affect survey answers in particular. Billions of dollars are spent on surveys where people are asked for preferences and often to give numbers also (Carson and Groves (2007)). Surveys dominate marketing and influence politics. How seriously should we take such surveys? – In case anchoring and purely cognitive effects dominate respondents' decisions, surveys should be considered a less informative tool compared to a situation where economic and rational reasoning determine respondents' answers. My results can also be used to draw some lessons about future survey design.

Third, regarding the relevance of anchoring in particular, we need to understand better how non-economists react to numbers. Anchoring occurs in a wide range of different situations (see Fehr and Tyran (2008), Beggs and Graddy (2009), or Fujiwara et al. (2013)). This paper is one of the few analyzing anchoring in a representative sample outside of the laboratory or the classroom. If we do not know enough about how people treat numbers, we misinterpret our results. – Suppose it turns out that the size of the anchoring effect is typically negligible, then we may not have to worry too much. But in case one finds that anchoring is a relevant force, one may have to rethink some results in the literature, particularly in experimental economics and any other discipline relying on surveys and experiments. Let me give an example to be more specific. In public good financing experiments presenting people the number of what others contribute on average and subsequently observing that people stick to that number themselves may in fact be due to conformity, i.e. people wanting to follow the reference point set by others. And often such behaviour is indeed interpreted as evidence of "conformity" (e.g. Alpizar et al. (2008)). However, if anchoring is relevant, people just take the number they are informed about and do in fact not think about the public good payment. In that case, it would be misleading

 $<sup>^{3}</sup>$ Anchoring as such has been quantified before. Early examples are Jacowitz and Kahneman (1995) and Green et al. (1998). But these approaches are not applicable to policy preferences and do also not allow for disentangling anchoring from other effects.

to call this action resulting from a cognitive misperception "conformity". Thus, learning about how quantitatively important anchoring is can inform us about the validity of parts of the research in experimental economics and about how future research designs should be modified.

The experimental approach implemented in this study relies on a split sample survey design, i.e. different respondents get different versions of the surveys. The survey treatments developed for disentangling anchoring from other potential causes of status quo bias are based on Samuelson and Zeckhauser (1988). I complement their approach by adding an anchoring treatment. This anchoring treatment very much follows the social security number design implemented by Ariely et al. (2003). It allows me to identify the anchoring effect and to quantify its relevance relative to other causes of status quo bias. The surveys have all been conducted in 2012. In sum, more than 1,500 respondents took part. The main survey has been conducted online and is representative of the German population. For comparison, a smaller survey has been conducted paper-based in the classroom with only students taking part. The policy topic of application for the preferences surveys were different areas of public spending in Germany. The results suggest that anchoring alone can cause one half of the whole phenomenon referred to as status quo bias. This indeed supports Samuelson and Zeckhauser (1988) who suspect anchoring to play a dominant role in explaining status quo bias. When designing future surveys and experiments, the potential prevalence of strong anchoring effects should therefore definitely be taken into account. It also seems to be a good idea not to blindly trust status quo bias in voters' stated policy preferences too much.

Apart from the literature on status quo bias and anchoring, this paper also relates to stated preferences research. So far, this literature has however focused more on strategic and hypothetical biases and on the willingness to pay versus willingness to accept difference. See, for example, Cummings et al. (1995), Cummings et al. (1997), Cummings and Taylor (1999), List (2001), Plott and Zeiler (2005), or Plott and Zeiler (2007). My study also relates to the fairly recent literature on default effects and nudges. Anchoring may in some instances be the explanation for why nudging actually works. A very prominent example is the strand of literature starting with Madrian and Shea (2001). They exploited a rule change regarding 401(k) saving plans in the US and found that a relevant share of participants starting saving under the new regime kept both the default contribution rate and the default fund allocation, although in fact only very few had chosen this rate and allocation before the rule change (with no default being in place).<sup>4</sup> Anchoring might be a very relevant explanation in this case. Finally, there is also a political economy literature trying to understand on a more aggregate level why people want to stick with the status quo so often. The most famous example probably is Fernandez and Rodrik (1991).

The next section gives a short overview of potential explanations of status quo bias. Section 3 then introduces the design and survey instruments used. Results are discussed in Section 4, an extension is covered in Section 5. Section 6 concludes.

 $<sup>{}^{4}</sup>$ The importance of default settings has also been shown, for example, in Johnson and Goldstein (2003), Thaler and Benartzi (2004) or Messer et al. (2007).

# 2 Explanations of Status Quo Bias

Anchoring as the favorite explanation of status quo bias brought forward by Samuelson and Zeckhauser (1988) is discussed in the Introduction. See Furnham and Boo (2011) for a literature review on anchoring. On a deeper psychological level, there are different explanations for anchoring itself as an empirical phenomenon. Two important ones are "insufficient adjustment" and "selective accessibility". The first one hypothesizes that when people are asked to provide a quantitative answer they use an initially given number as a starting point (be it reasonable or not) and adjust it only partially until a more or less reasonable value (in the eyes of the respondent and depending on the circumstances) is reached.<sup>5</sup> The second explanation states that the anchor activates selected knowledge about the number that is to be given or estimated that fits the anchor value and therefore biases responses towards the anchor.<sup>6</sup> See Epley (2004) for an overview regarding these two main explanations of anchoring. Following the approach to behavioral economics outlined by Matthew Rabin, the present study is however not concerned with psychologically explaining anchoring as such, but with investigating to what degree anchoring and other factors can help explaining economic behavior (cf. Rabin (2013), p. 617).

A lot of other possible explanations of status quo bias – apart from anchoring – have been brought forward. Samuelson and Zeckhauser (1988) categorize them into psychological commitment explanations and rational explanations. For nice overviews focusing on psychologocial explanations, see Anderson (2003) or Eidelman and Crandall (2009). Among the psychological commitment explanations Samuelson and Zeckhauser (1988) mention inter alia sunk costs, regret avoidance, and the drive for consistency. The sunk cost explanation relies on the theory that many people are inclined to keep the status quo since they already invested a lot of resources into it. The concept of regret avoidance is closely related and describes the theory that people feel worse after a bad outcome they caused through a new action compared to an equally bad outcome that resulted from doing nothing (i.e. keeping the status quo) since they feel more personally responsible in the first case. The drive for consistency theory implies that people stick to their past decisions to minimize cognitive dissonance regarding their selfperception. All these explanations of psychological commitment in some way or another rely on people already having made a decision in the past. They are "turned off" in my survey experiments by choosing policy preferences as topic. Arguably, in politics no single individual is solely responsible for past or present decisions. If we find status quo bias being present in the area of policy preferences, channels working through psychological commitment should therefore not be relevant.<sup>7</sup> Samuelson and Zeckhauser (1988) mention loss aversion as another possible explanation rooted in psychology. The idea is that the status quo serves as a reference point with possible losses from deviating from it looming larger than possible gains (cf. Tversky and

 $<sup>{}^{5}</sup>$ See Epley and Gilovich (2001), Epley and Gilovich (2006) or Epley and Gilovich (2010). In the contingent valuation literature the anchoring effect is usually labelled "starting point bias", see Green et al. (1998) for an example analyzing anchoring in contingent valuation.

<sup>&</sup>lt;sup>6</sup>See Mussweiler and Strack (2001).

 $<sup>^{7}</sup>$ Regarding policy preferences, an individual may still decide to stick to the status quo since this is what the majority decided. But this is an active decision that requires yet another reason that determines the decision to follow the majority (such as too high cost of analysis on the individual level). Such causes of status quo bias are covered in the following paragraph.

Kahneman (1991) or Hartman et al. (1991)). But even in examples where there is no framing in terms of gains and losses they do find strong evidence for status quo bias and conclude that loss aversion can therefore not be the most relevant explanation. Therefore, also in the policy preferences survey used for this paper, there is no framing in terms of gains and losses.

The second important branch of explanations outlined in Samuelson and Zeckhauser (1988) are the rational ones. They mention transition costs, uncertainty, and costs of search or analysis. Transition costs refer to the simple fact that it might not be possible to change to a new status quo for free. Uncertainty might play a role when people do not have enough information about the possible options and/or are risk-averse. If people are uncertain about the process of changing the status quo itself, trade uncertainty might also be relevant (cf. Engelmann and Hollard (2010)). Costs of searching for and analyzing alternatives to the status quo might be especially relevant when people do not want to invest too much energy in thinking about the decision to be made (cf. Madrian and Shea (2001) or Anderson (2003)). All these explanations are rational in the sense that the individual really thinks about the choice at hand; if the individual sticks to the status quo it does so motivationally and based on some form of economic reasoning. This is in clear contrast to anchoring as possible psychological cause of status quo bias which is better described as cognitive misperception. A worthwhile first step towards disentangling different causes of status quo bias therefore is to separate anchoring as a purely cognitive explanation from the remaining ones which can be rooted in economic reasoning.

# 3 Method

This section first describes the experimental design, then its application to survey questions, and finally the surveys implemented for this study.

## 3.1 Design

A simplified model on how to estimate the anchoring effect's share in contributing to the overall status quo bias effect is depicted in Figure 1. The figure shows hypothetical distributions of people's statements across three different experimental treatment groups. The example application is a policy survey asking for people's bliss points in public per capita spending for environmental protection. A split sample design needs to be used, i.e. each respondent gets to answer only one of the three different survey versions. Let us suppose that respondents in the first group, the No Info Group, are asked for their policy bliss point without being given any information on the level of the policy status quo. The solid horizontal line represents the hypothesized distribution of stated policy bliss points within this group. For simplicity, let us assume it is uniform.

The second group, the Status Quo Group, is asked for bliss points for the very same policy as the No Info Group, but also gets informed about the status quo level of the policy. Let us assume it is equal to 5. If status quo bias is an empirically relevant phenomenon, one should expect the distribution of policy bliss points in this group to be more concentrated around 5 than in the No Info Group. This is what the line consisting of long dashes and having a maximum at 5 schematically depicts: A lot more respondents give policy bliss points close to the status quo



Figure 1: Back of Envelope Estimate of Relative Strength of Anchoring

in the Status Quo Group compared to the No Info Group. One can even give a rough estimate of the status quo bias effect if one agrees on what "close to the status quo" in fact means. For example, let us suppose that everything in between 4.5 and 5.5 is considered close to the status quo. The range of policy bliss points close to the status quo is then marked by vertical dotted lines. Thus, area A represents the number of respondents in the No Info Group that give policy bliss points close to 5. For the Status Quo Group, in contrast, respondents close to the status quo are covered by the area A + B + C. The absolute status quo bias effect thus amounts to B + C, i.e. the difference by which the number of respondents close to the status quo increases when switching from the No Info to the Status Quo Group.

Several different causes may be at work jointly in contributing to the overall status quo bias. The present study is concerned with identifying the relevance of the anchoring effect relative to other causes. Let us now suppose that we can construct a design for a third treatment group, the Anchoring Group, where respondents are asked for their policy bliss points as before, but where by design only anchoring can result in respondents overly stating policy bliss points close to 5. If anchoring is indeed causal for a part, but not all of the whole status quo bias, the resulting distribution could look similar to the one depicted by short dashes in the figure, i.e. being concentrated around 5 as well, but less so than in the Status Quo Group. The part of status quo bias caused by anchoring would be represented by area B. Area B being seen relative to C would give an indication of how relatively relevant anchoring is in explaining status quo bias.

However, one would go too far by saying that B/(B+C) exactly represents the share of status quo bias that is caused by anchoring. For that statement to be true, one would need a linearity assumption stating that anchoring does not interact with any other causes of status quo bias that might be at work in the Status Quo Group besides anchoring, but instead simply

adds up to their effects. This is an assumption I am unable to prove and unwilling to make. What can be said, however, is that rational or economic reasoning can by design not account for bunching at 5 in the Anchoring Group and, thus, that anchoring as a purely cognitive misperception can alone produce a B/(B+C) share of the whole status quo bias effect. This gives quite a good first idea on whether anchoring is a relevant factor in explaining status quo bias or not.

The next subsection details how treatments for the three different groups can be designed for the case of policy preferences surveys. Status quo bias is not restricted to survey answers. It is relevant in a wide range of situations where humans make decisions in the presence of a status quo. Nevertheless, it is constructive to follow the example of Samuelson and Zeckhauser (1988) and to use survey experiments as a controlled environment to learn more about this effect. That does not imply that I expect the relevance of my results to be restricted to surveys.

### 3.2 Application to Survey Questions

For illustration purposes, let us stick for the moment to the environmental protection spending example. I come back to the different topics covered in my survey experiments in the next subsection. Screenshots of the original survey instruments that were used in the field are contained in the Appendix.

Using a split sample design, one needs survey treatments for respondents in the No Info Group, the Status Quo Group, and the Anchoring Group. The No Info Group treatment just has to introduce the topic and to ask for the respondent's policy bliss point:

Question A: The German state has taken several measures to protect the environment. In your opinion, how much money should the German state spend on such measures per capita and year?

The treatment for the Status Quo Group additionally contains information on the status quo:

Question A: The German state has taken several measures to protect the environment. It spends around 41 Euros per capita and year on such measures. In your opinion, should the German state spend on such measures per capita and year less than 41 Euros, 41 Euros, or more than 41 Euros?

In the online surveys, the order of the three choice options in Question A is randomized. If a respondent in the Status Quo Group chooses the "more" or the "less" option, she is asked for her exact bliss point in a follow-up question:<sup>8</sup>

Question B: How much money should the German state spend on such measures per capita and year?

Note that the Status Quo Group survey treatment looks similar to the original

<sup>&</sup>lt;sup>8</sup>An alternative would be to skip the choice question and to directly ask for the exact amount. However, real life survey questions typically have the choice question in between. Besides, the anchoring literature from which I borrow the anchoring treatment also uses a choice question. I therefore follow their formulation.

water commissioner survey question by Samuelson and Zeckhauser (1988) presented in the Introduction. The main difference is that 41 Euros is the actual status quo in German environmental protection spending and that this question could easily be asked in a real policy preferences survey in Germany. Such surveys asking for people's bliss points in certain policy domains while also telling them about the current status quo are very common. Typically they look a lot like the question presented here and could for example also ask for people's preferred marginal income tax rate for the very rich, the average retirement age in a society, or the monetary benefit level of a typical welfare recipient. Note that all survey questions refer to the German case since all the survey experiments have been conducted in Germany.

If status quo bias is relevant, more respondents will give answers close to the status quo in the Status Quo Group version of the survey than in the No Info Group version presented before, although both versions actually ask for the very same thing. This is due to different effects adding up or interacting in more complicated ways to the whole phenomenon labeled status quo bias. The aim is to disentangle the power of anchoring as a cognitive misperception from the remaining other effects contributing to status quo bias such as economic reasoning. When answering the Status Quo Group survey version, respondents are presumably influenced by the number 41 since it represents the status quo policy that is in place (delivering relevant economic information), but also since it is a number (which can serve as a cognitive anchor). If respondents state that their preferred spending level is 41 Euros, we do not know if they want the current policy to stay in place (for possibly motivational reasons based on economic thinking) or if they simply anchored to the 41 as a number for purely cognitive reasons.

Comparisons between the answers to the No Info Group and the Status Quo Group enables one to measure the whole effect of status quo bias. To get an estimate of what part of this whole effect anchoring alone can produce, the Anchoring Group answers a third version of the survey. This anchoring treatment needs to present respondents with a random number to anchor to without telling them anything about the status quo (to "turn off" any other channels through which status quo bias may work as well). If many respondents in the Anchoring Group stick close to the (now random) number in the survey question, this must be due to anchoring. For this purpose, I keep the structure of the question similar to the versions before, but adopt at the same time the anchoring treatment of Ariely et al. (2003). They use people's social security numbers as random anchors. Since people in Germany do not know their social security number by heart, I use phone numbers instead:

Question A: Please enter the last two digits of your phone number (landline, alternatively mobile) into the box provided below.

In the following question, the computer replaces [XX] by the digits the respondent provided in Question A.

Question B: You gave number [XX] as response to the previous question. The German state has taken several measures to protect the environment. In your opinion, should the German state spend on such measures per capita and year less than [XX], [XX], or more than [XX] Euros? In the online surveys, the order of the three choice options in Question B is randomized. If a respondent in the Anchoring Group chooses the "more" or the "less" option, she is asked for her exact bliss point in a follow-up question:

# Question C: How much money should the German state spend on such measures per capita and year?

If many respondents' policy bliss point in the Anchoring Group is close to their phone number, this must be due to anchoring to the number. As explained in Figure 1, comparing the share of respondents sticking close to the number between Anchoring and Status Quo Group then allows to get an idea about how relevant anchoring is in contributing to status quo bias.

Overall, the design of the three versions of the survey thus closely follows the original status quo bias analysis format by Samuelson and Zeckhauser (1988), the anchoring analysis format by Ariely et al. (2003), and the way real life policy survey questions typically look like.

One potential concern with my survey design for the Status Quo and the Anchoring Group could be that a lot of respondent simply pick the (exactly) "41 Euros" or the (exactly) "[XX] Euros" because they seem to be "easy answers". However, there are four arguments against this potential concern. First, respondents may not anticipate that they will be asked for the exact amount in a follow-up question in case they pick the "more" or "less" option. In that case all three options are "equally easy". Second, this study is interested in comparisons across different survey treatments. If the just described potential problem occurs to the same degree in both the Status Quo and the Anchoring Group it poses no problem since the effects "cancel out" via the comparison. Third, even if one assumes the problem to be stronger in the anchoring treatment, e.g. because of its non-everyday structure, Epley and Gilovich (2001) have shown that this type of problem is weakest in the case of anchors that are generated by respondents themselves (which is the case with phone numbers respondents give themselves). Fourth, and most important, results are similar when excluding all respondents who took the "41 Euros" in the Status Quo or the "[XX] Euros" in the Anchoring Group.

### 3.3 The Surveys

The experimental design described in the previous subsection was implemented in three different surveys. Table 1 gives a short overview. All surveys in principle followed the same basic structure with No Info Group, Status Quo Group, and Anchoring Group. In some cases, there were some additional treatments and checks included. I come back to this in the Extension Section. For simplification, for the most part of the Results Section the focus is on data from Survey 3 since results are very similar across all three surveys.

Table 1. Overview of Surveys					
	Survey 1	Survey 2	Survey 3		
Field Time Field Mode Observations Policy Topic	Jun/Jul 2012 GIP (online) 296 Environment	Sep 2012 Classroom (offline) 176 Performing Arts	Nov 2012 GIP (online) 1081 Performing Arts		

Table 1: Overview of Surveys

Two out of the three surveys were conducted online using the German Internet Panel (GIP) based at the University of Mannheim and funded by the German Science Foundation. One of its main goals is "to collect micro data on the feasibility of political and economic reforms".<sup>9</sup> The GIP is anonymous and the first online true probability sample in Germany. Although GIP surveys are conducted online, the recruiting is done offline and is representative. Participants without computer and/or internet access (or lacking the relevant experience) are provided with infrastructure and help. There is a payment of 4 Euros per completed survey, plus a bonus for completing all 5 to 6 surveys in a year. Since the anchoring studies mentioned above (including Ariely et al. (2003)) took place either in the classroom or in the laboratory, my study can on top of its original purpose also be seen as the first "field test" of this kind of anchoring in the sense that the subject pool is a representative sample of an entire population.

For comparison reasons, one of the three surveys has been conducted paper-based in the classroom. The sample consisted of second-year undergraduate students taking intermediate microeconomics exercise sessions (in German) at the University of Mannheim. Students were told that the survey was part of a "scientific project", that participation was voluntary and anonymous, and that the results of the project would be presented in one future exercise session. All the students participated and filled out the questionnaire. Students were not aware of the fact that there were different versions of the questionnaire and had also been asked to work on the questionnaire alone. Any communication was forbidden while filling out the sheet of paper. The filling-out process was monitored. The classroom survey allows to check whether results regarding status quo bias and anchoring are different for this very specific sample of respondents compared to the population-representative surveys. Respondents in the classroom survey have all passed the highest possible high school degree in Germany (qualifying for entering university), are on average considerably younger, and have on average a background of two semesters training in economics and mathematics at the University of Mannheim.

# 4 Results

This section first presents evidence for status quo bias in people's policy preferences. The second part shows that people are prone to anchoring to random numbers when stating policy preferences. The third part analyzes how quantitatively relevant anchoring is in contributing to status quo bias.

## 4.1 Evidence of Status Quo Bias

Figure 2 comparatively shows the distribution of respondents' stated policy bliss points in the No Info and the Status Quo Group of Survey 3. Although both groups are in fact asked for the very same thing (their policy bliss point regarding public per capita spending in Euros on the performing arts in Germany), informing one group about the status quo (but not the other) results in large differences across the distributions of answers: One can immediately tell that in the No Info Group 0, 50, and 100 seem prominent magnitudes to pick, whereas in the Status

<sup>&</sup>lt;sup>9</sup>For more information on the GIP, you can visit reforms.uni-mannheim.de (choose "Internet Panel" in the menu).

Quo Group the most striking observation clearly is that as much as 40% of all respondents give a response equal to 33 or at least very close to it. They had been informed that 33 is the status quo policy. Thus, respondents are heavily influenced by knowing about the status quo or not. Status quo bias is strong.



Figure 2: Status Quo Bias in Policy Preferences

It is also evident from the figure that answers in the No Info Group are more dispersed than in the Status Quo Group. This observation further supports the conclusion that status quo bias is at work and is confirmed by looking at some summary statistics of the bliss point distributions across the two groups. For this, see Table 2. While the range of given answers is 0 to 699 in the No Info Group, it shrinks to 0 to only 75 in the Status Quo Group. The standard deviation of answers is more than seven times higher in the No Info Group than in the Status Quo Group. Finally, the mean policy bliss point is around 64 in the No Info Group, but exactly equal to the status quo, i.e. 33, in the Status Quo Group. Thus, informing respondents about the status quo has enormous effects on the answers they give. The clearest evidence of status quo bias is that almost one half of all respondents give policy bliss points equal or very close to the status quo if they get informed about it. Results are very similar for the other surveys.

Note: About 10% of respondents in "No Info" Group give bliss points >100. Those are not depicted here.

Table 2:	Status	Quo	Bias	in F	Policy	Preferences
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	No Info Group	Status Quo Group
Mean	63.76	33.08
Stdev	98.55	13.81
Min	0	0
Max	699	75
Obs	177	178

Notes: Data from Survey 3. No info group did not receive any information on current status quo policy. Status quo group was informed that current status quo policy is 33. The total number of observations may seem low compared to Table 1. Note, however, that not all treatments implemented in Survey 3 are already depicted in Table 2.

### 4.2 Evidence of Anchoring

Part of the status quo bias found in the previous subsection may be due to cognitive anchoring to the number 33 presented to respondents in the Status Quo Group. To investigate this further, this subsection presents evidence for anchoring to numbers from the Anchoring Group in Survey 3. In the Anchoring Group, respondents are asked to relate their policy bliss point to their phone number statement. See Table 3 for results from the Anchoring Group. It depicts respondents' stated policy bliss points for different quintiles of the distribution of phone number digits stated by the respondents right before the bliss point. The results suggest that respondents who give a high phone number also give a high policy bliss point: The mean bliss point almost monotonically increases with the quintile of the phone distribution. While the 20% of respondents with the lowest phone numbers give a mean policy bliss point of 22, the 20% of respondents with the highest phone numbers give a mean policy bliss point of 72. The correlation between phone digits and bliss points is 39% and highly significant.

Quintile of Phone No.	Mean Policy Bliss Point
First	22
Second	37
Third	36
Fourth	56
Fifth	72
Correlation	0.39*** (p=0.0000)

Table 3: Anchoring to Own Phone Number

Notes: Data from Survey 3. 345 observations. The first column is based on respondents' own announcing of phone numbers. Column two gives mean stated policy bliss points for the respective quintiles of the phone number distribution. The correlation refers to the correlation between the stated phone numbers and the stated policy bliss points.

Even when excluding all respondents who took neither the "more than |XX| Euros" nor the

"less than [XX] Euros", but the "[XX] Euros" option, the anchoring correlation is still 33% and highly significant (p=0.0000). Results are very similar for the other surveys. For example, also in Survey 2 where all respondents were highly educated university students having been trained in economics and mathematics the phone anchoring correlation is 37% and significant at any conventional level.

Thus, we can conclude: People with a high phone number (high anchor) want high per capita spending on the arts, while people with a low phone number (low anchor) want low spending. People take their own phone number as a relevant anchor when answering the policy question. Anchoring is very relevant. This finding is completely in line with the results of Ariely et al. (2003) who show that people with a larger social security number state a higher willingness to pay for the same bottle of wine.

The next subsection details how the experimental design can be exploited to investigate how much of the status quo bias detected before is due to such anchoring.

### 4.3 Explaining Status Quo Bias by Anchoring

A first step in analyzing how quantitatively important anchoring is in causing status quo bias is to compare between the Status Quo and the Anchoring Group the shares of respondents giving policy bliss points within a certain "closeness" band around the status quo or anchor. In both groups, respondents get a number to anchor to, be it the status quo or a phone number. In the Status Quo Group, respondents may besides anchoring to the number also give a policy bliss point close the status quo number for other potential reasons of status quo bias (such as based on economic reasoning). If one accepts the share of respondents staying close to the status quo as a measure of the total status quo bias effect, one is able to estimate the share of this effect that is due to anchoring by comparing it to the share of respondents staying close to the phone number in the Anchoring Group (where all other channels possibly causing status quo bias are turned off).

Band around anchor/status quo	Respond No Info	ents fraction Anchoring	within band: Status Quo	Chi square p-value	Relative strength anchoring effect
1%	0.000	0.135	0.376	0.000	0.359
5%	0.000	0.141	0.376	0.000	0.375
10%	0.045	0.156	0.416	0.000	0.300
20%	0.045	0.207	0.416	0.000	0.437
30%	0.056	0.305	0.556	0.000	0.498
50%	0.107	0.443	0.652	0.000	0.617

Table 4: Anchoring Can Cause up to 50% of Status Quo Bias

Notes: Data from Survey 3. 689 observations (sum of observations analyzed separately in Tables 2 and 3). Column one gives the +/- range by which a respondent's stated policy bliss point can deviate from the anchor (Anchoring Group) respectively status quo (No Info and Status Quo Groups) to still be considered close. For example, 13.5% of respondents in the Anchoring Group stay within a +/- 1% range of the anchor. Column four gives the p-value of a chi square test checking whether the fraction of respondents within the band is equal across the three groups. The last column gives a rough estimate of the strength of the anchoring effect relative to the status quo bias by calculating: (fraction anchoring - fraction no info) / (fraction status quo - fraction non info).

Since it is not a priori clear what "staying close" means, Table 4 provides such an analysis for bands of different ranges from +/-1% up to +/-50%. For example, being in a 1% band means that the answer given to the question was at maximum 1% larger and at minimum 1% smaller than the number given in the question (be it the status quo policy or the phone anchor). One can see that in the Anchoring Group between 13.5 and 44.3% of all respondents (depending on the definition of "staying close") give a policy bliss point that is close to their phone number statement. In the Status Quo Group, between 37.6 and 65.2% of respondents give a policy bliss point that is close to the status quo of 33. Table 4 also presents p-values of chi square tests showing that the shares of respondents sticking close to the number are indeed statistically different across the different treatment groups. The final column of Table 4 – in line with the design presented in Figure 1 – provides back of the envelope estimates of the relative importance of the anchoring effect in contributing to the overall status quo bias effect. They show that according to Survey 3 data cognitive anchoring alone can produce between 30 and 61.7% of the whole effect referred to as status quo bias. Analyzing the data from the other surveys gives the same picture. See the Appendix for the results.

Dep. Variable:	Distance from Anchor/Status Quo
Constant	56.198 ***
	(6.500)
Status Quo	-46.552 ***
	(6.541)
Anchoring	-26.979 ***
	(6.709)
Observations	680
B squared	0.106
n squared	0.100

Table 5: Regressing Distance from Anchor/Status Quo on Group Indicator

Notes: Data from Survey 3. OLS regression. 689 observations (sum of observations analyzed separately in Tables 2 and 3). Dependent variable is the absolute distance of the respondent's stated policy bliss point from the anchor (anchoring group) or the status quo (no info and status quo group). Status Quo and Anchoring are dummies indicating to which group a respondent had been randomly assigned to. The no info group serves as the baseline. Robust standard errors in parentheses. \*\*\* p <0.01, \*\* p <0.05, \* p <0.1.

Table 5 offers a more formal analysis by regressing the respondents' distances between policy bliss point and number (status quo or anchor) on treatment group indicators. The No Info Group serves as a baseline, i.e. the mean distance between the status quo of 33 and policy bliss points stated by respondents in the No Info Group is about 56.2. The coefficients for both other groups are significantly negative, i.e. providing respondents with the actual status quo or asking them to relate the bliss point to their phone number both pushes them closer to the number. Being informed about the status quo policy reduces the distance to the status quo by about 46.6 to a mean distance of about 56.2 - 46.6 = 9.6 only. This is again illustrative of status quo bias. Being a respondent in the Anchoring Group reduces the distance from the relevant number by only 27 resulting in a mean distance of 56.2 - 27 = 29.2. Comparing the coefficients of the treatment group indicators suggests that about 27/46.2 = 58.4% of status quo bias can be produced by anchoring alone based on this distance analysis. This magnitude is very much in line with the estimates obtained in Table 4 based on an analysis of shares of respondents within certain closeness bands.

Thus, the estimates show across the different surveys and across different methods of analysis that anchoring alone can produce about one half of the whole effect referred to as status quo bias. Although the results are fairly consistent across the survey experiments, one may question the external validity of the result since all presented survey experiments are based on asking common people about detailed policy issues such as per capita spending on environmental protection. One could argue anchoring to be particularly strong in this case since many people may not have the slightest clue about what a potential range of reasonable answers could be. I want to alleviate such concerns by bringing up three points: First, the used survey questions follow very much real life survey questions. Thus, even if they were particularly prone to anchoring by non-experts, so would be real life surveys. In that sense, my results would still be informative for real life applications. Second, Bateman et al. (1997) have shown that people show about the same degree of uncertainty regarding preferences in the case of more common goods compared to less common goods. This fits the findings by Jacowitz and Kahneman (1995) and Fujiwara et al. (2013) showing that experts are in fact not less prone to anchoring than non-experts. Third, in some of the experimental surveys, I can control for the experience of the respondents, e.g. by asking respondents how much money they typically spend per year on visiting stage performances before asking them about their bliss point regarding public spending on the performing arts. My results are similar when controlling for such experience.

# 5 Extension: The Limits of Anchoring

The results in the previous section show that anchoring as a cognitive misperception can explain up to 50% of status quo bias. If anchoring has such strong effects, the question arises whether policy preferences may also be influenced by any random number even if it is not connected to the policy preferences question at all. In the previous design, respondents in the Anchoring Group were explicitly asked to relate their policy bliss points to their phone number statements. This subsection explores an extension treatment to the previous design that tests whether respondents also anchor when they are presented a random number on the way without being actively asked to consider it when answering the subsequent policy preferences question. The psychological literature refers to this special type of anchoring as "basic anchoring". Results on basic anchoring have been mixed so far and seem to depend on the circumstances. While Wilson et al. (1996), Mussweiler and Englich (2005), and Critcher and Gilovich (2008) find basic anchoring effects, Brewer and Chapman (2002), for example, do not.

To design a basic anchoring treatment, one needs to present respondents a number (to potentially anchor to) without giving them the slightest hint that there could be a relation to the subsequent policy preferences question. This turns out not to be too straightforward if one does not want to lie to people and also not to make them suspicious. I decided to use a "captcha" for that purpose. Captchas are "Completely Automated Public Turing tests to tell Computers

Figure 3: A Typical Captcha.



# Please enter the number above:



# Submit

and Humans Apart" and known to everybody using the internet (see von Ahn et al. (2003), von Ahn et al. (2008), or Rao and Reiley (2012)). Figure 3 shows you a typical example.<sup>10</sup> Robots or programs are often used to misuse websites, but are often unable to complete captchas. Captchas are therefore used as a security device deciding whether the entity using a website is human or not. Since such captchas are by now very common, I can use a captcha respondents have to answer in a question right before the policy question to potentially get an anchor into respondents' minds without creating suspicion. See Figure 4 for a captcha adapted for my purposes. Respondents are asked to enter the random number the computer shows them into the box provided.





<sup>&</sup>lt;sup>10</sup>The example is taken from the following website that explains how to create a captcha: http://dotnetslackers.com/articles/aspnet/Creating-a-CAPTCHA-generating-ActionResult.aspx (March 18, 2014).

To test whether including such basic anchors has any effects on respondents' stated policy bliss points, Survey 3 contained an additional treatment group (Basic Anchoring Group). Respondents in this group first had to answer a captcha question like the one shown in Figure 4. The computer randomly showed either an anchor 33, an anchor 66, or an anchor 99 captcha. Afterwards, they were presented with exactly the same policy preferences question as respondents in the No Info Group. See the Appendix for detailed screenshots and explanations of the original survey questions. The results in Table 6 show that respondents in the Basic Anchoring Group do in fact not anchor to the captcha numbers at all: Independently of the captcha number being shown to them, in all three groups respondents' stated mean policy bliss points are almost the same. There is no evidence of any correlation between the stated policy bliss points and the captcha numbers. Respondents do thus not exhibit basic anchoring.

	0 1
Captcha	Mean Policy Bliss Point
33	72.85
66	70.43
99	69.62
Correlation	-0.01 (p=0.8361)

Table 6: No Anchoring to Captchas

Notes: Data from Survey 3. 349 observations. Column one presents the captcha number to be filled in by respondents in the respective group. Column two gives the mean stated policy bliss points for each captcha group. The correlation refers to the correlation between captcha numbers and stated policy bliss points.

Since real life survey questions do in fact actively ask for a comparison of the number given in the question (e.g. the status quo) to the respondent's bliss point, the Anchoring Group design (with phone numbers) is the appropriate one to estimate anchoring's relative effect in contributing to status quo bias. The previous section has shown that this relative effect is strong. Nevertheless, it may seem assuring that results from the Basic Anchoring Group show that, although anchoring can be strong, people are not necessarily prone to taking any random number not related to the question at hand at all as relevant information when answering it.

# 6 Conclusion

Status quo bias is an ubiquitous phenomenon. However, little is known about which factors can explain it. This study uses large survey experiments within the classroom and the representative German Internet Panel (GIP) to disentangle anchoring as a cognitive misperception from explanations based on economic reasoning such as transition cost. The result is that about one half of status quo bias can be caused by anchoring alone. This clearly supports the claim by Samuelson and Zeckhauser (1988) that anchoring is the "best explanation" of status quo bias. One lesson to be learnt from that could be not to take huge status quo bias in voters' stated policy preferences politically too seriously. Another implication is that anchoring as an empirical phenomenon should be taken into account when designing future experiments and surveys, in particular when presenting people with numbers. An extension analysis relying on the usage of captchas as basic anchors however reveals that fears people could systematically anchor to any random number that has no connection to the issue at hand at all would be exaggerated.

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# A Strength of Anchoring in Surveys 1 and 2

Band around anchor/status quo	Responde No Info	ents fraction Anchoring	within band: Status Quo	Chi square p-value	Relative strength anchoring effect
1%	0.000	0.231	0.485	0.000	0.476
5%	0.030	0.246	0.515	0.000	0.445
10%	0.030	0.262	0.545	0.000	0.449
20%	0.030	0.292	0.576	0.000	0.480
30%	0.152	0.385	0.636	0.000	0.481
50%	0.152	0.508	0.727	0.000	0.619

Table 7: Anchoring Can Cause up to 50% of Status Quo Bias (Survey 1)

Notes: Data from Survey 1. 131 observations. Column one gives the +/- range by which a respondent's stated policy bliss point can deviate from the anchor (anchoring group) respectively status quo (no info and status quo group) to still be considered close. For example, 23.1% of respondents in the anchoring group stay within a +/- 1% range of the anchor. Column four gives the p-value of a chi square test checking whether the fraction of respondents within the band is equal across the three groups. The last column gives a rough estimate of the strength of the anchoring effect relative to the status quo bias by calculating: (fraction anchoring - fraction no info) / (fraction status quo - fraction non info).

Band around anchor/status quo	Responde No Info	ents fraction Anchoring	within band: Status Quo	Chi square p-value	Relative strength anchoring effect
1%	0.017	0.121	0.351	0.000	0.311
5%	0.017	0.138	0.351	0.000	0.363
10%	0.033	0.172	0.368	0.000	0.415
20%	0.033	0.224	0.404	0.000	0.515
30%	0.067	0.310	0.596	0.000	0.460
50%	0.117	0.466	0.667	0.000	0.634

Table 8: Anchoring Can Cause up to 50% of Status Quo Bias (Survey 2)

Notes: Data from Survey 2. 171 observations. Column one gives the +/- range by which a respondent's stated policy bliss point can deviate from the anchor (anchoring group) respectively status quo (no info and status quo group) to still be considered close. For example, 12.1% of respondents in the anchoring group stay within a +/- 1% range of the anchor. Column four gives the p-value of a chi square test checking whether the fraction of respondents within the band is equal across the three groups. The last column gives a rough estimate of the strength of the anchoring effect relative to the status quo bias by calculating: (fraction anchoring - fraction no info) / (fraction status quo - fraction non info).

# **B** Description of Original Survey Instruments

For a short overview of the different surveys, see Table 1.

# B.1 Survey 1

The survey versions for the five groups of Survey 1 are presented one after another: No Info Group, Status Quo Group, Status Quo No Choice Group, Anchoring Group, Captcha Group.

Respondents in the No Info Group received a screen directly asking about their policy bliss points without being given any information on the current status quo policy. See Figure 5 for a screenshot of the original survey question (in German). The screen said: "The German state has taken several measures to protect the environment. In your opinion, how much money should the German state spend on such measures per capita and year? Please enter your answer into the box provided." On the right-hand side of the box it said "Euros per capita and year".



Figure 5: Survey 1: No Info Group

Respondents in the Status Quo Group received information about the current status quo policy. See Figure 6 for screenshots of the original survey questions (in German). The first screen said: "The German state has taken several measures to protect the environment. It spends around 41 Euros per capita and year on such measures. In your opinion, the German state should spend on such measures per capita and year... To answer this question choose one of the three answering options." The answering options were: "more than 41 Euros", "less

than 41 Euros", "41 Euros". The order of the different answering options was randomized across respondents. If respondents chose either the "more" or the "less" option, the second screen popped up asking for the exact amount: "In your opinion, how much money should the German state spend on such measures per capita and year? Please enter your answer into the box provided." On the right-hand side of the box it said "Euros per capita and year".

### Figure 6: Survey 1: Status Quo Group

Gesellschaft im Wandel		Hilfe			
Der deutsche Staat setzt sich durch eine Vielzahl an Maßnahmen für den Umwelt- und Naturschutz ein. Er gibt etwa 41 Euro pro Einwohner im Jahr für solche Maßnahmen aus.					
Der deutsche Staat sollte Ihrer Ansicht nach für solche Maßnahme	n pro Einwohner im Jahr				
Bei dieser Frage können Sie nur eine Antwort geben.					
<ul> <li>mehr als 41 Euro ausgeben.</li> <li>weniger als 41 Euro ausgeben.</li> <li>41 Euro ausgeben.</li> </ul>					
<zurück weiter=""></zurück>	<b>+ LINK</b> Institut	UNIVERSITÄT Mannheim			
Gesellschaft im Wandel		Hilfe			
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einw	rohner im Jahr für solche Maßnahmen aus	geben?			
Bitte tragen Sie Ihre Antwort in das Feld ein.					
Euro pro Einwohner im Jahr					
< Zurück Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim			

Respondents in the Status Quo No Choice Group received information about the current status quo policy. In contrast to the Status Quo Group, they did not receive a screen with three choice options first, but were directly asked for their exact policy bliss point. See Figure 7 for a screenshot of the original survey question (in German). The screen said: "The German state has taken several measures to protect the environment. It spends around 41 Euros per capita and year on such measures. In your opinion, how much money should the German state spend on such measures per capita and year? Please enter your answer into the box provided." On the right-hand side of the box it said "Euros per capita and year".

### Figure 7: Survey 1: Status Quo No Choice Group

Gesellschaft im Wandel		Hilfe
Der deutsche Staat setzt sich durch eine Vielzahl an Maßnahme solche Maßnahmen aus.	en für den Umwelt- und Naturschutz ein. Er gi	bt etwa 41 Euro pro Einwohner im Jahr für
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro E	inwohner im Jahr für solche Maßnahmen au	sgeben?
Bitte tragen Sie Ihre Antwort in das Feld ein.		
Euro pro Einwohner im Jahr		
< Zurück Weiter >	# LINK Institut	UNIVERSITÄT Mannheim

Respondents in the Anchoring Group first were asked to provide some digits of their phone number and then to put their policy bliss point into perspective to it without receiving any information on the current status quo policy. See Figure 8 for screenshots of the original survey questions (in German). The first screen said: "Please enter the last three digits of your phone number (landline, alternatively mobile) into the box provided below. Please enter your answer into the box provided." On the second screen it said: "You gave number "[the respondent's answer to the previous question was inserted here by the computer]" as response to the previous question. The German state has taken several measures to protect the environment. In your opinion, the German state should spend on such measures per capita and year... To answer this question choose one of the three answering options." The answering options were: "more than "[the respondent's answer to the previous question was inserted here by the computer]" Euros", "less than "[the respondent's answer to the previous question was inserted here by the computer]" Euros", ""[the respondent's answer to the previous question was inserted here by the computer]" Euros". The order of the different answering options was randomized across respondents. If respondents chose either the "more" or the "less" option, a third screen popped up asking for the exact amount: "In your opinion, how much money should the German state spend on such measures per capita and year? Please enter your answer into the box provided." On the right-hand side of the box it said "Euros per capita and year".

	<i>5</i> 0 1	
Gesellschaft im Wandel		Hilfe
Tragen Sie bitte die letzten drei Ziffern Ihrer Telefor	nnummer (Festnetz, alternativ Mobiltelefon) in das unten s	stehende Feld ein.
Bitte tragen Sie Ihre Antwort in das Feld ein.		
< Zurück Weiter >	# LINK Institut	UNIVERSITÄT Mannheim
Gesellschaft im Wandel		Hilfe
Sie haben als Antwort auf die letzte Frage die Zahl	l "420" angegeben.	
Der deutsche Staat setzt sich durch eine Vielzahl a	n Maßnahmen für den Umwelt- und Naturschutz ein.	
Der deutsche Staat sollte Ihrer Ansicht nach für sole	che Maßnahmen pro Einwohner im Jahr	
Bei dieser Frage können Sie nur eine Antwort geben.		
<ul> <li>420 Euro ausgeben.</li> <li>mehr als 420 Euro ausgeben.</li> <li>weniger als 420 Euro ausgeben.</li> </ul>		
< Zurück Weiter >	# LINK Institut	UNIVERSITÄT Mannheim
Gesellschaft im Wandel		Hilfe
Wie viel Geld sollte der deutsche Staat Ihrer Ansich	nt nach pro Einwohner im Jahr für solche Maßnahmen au	isgeben?
Bitte tragen Sie Ihre Antwort in das Feld ein.		
Euro pro Einwohner im Jahr		
< Zurück Weiter >	<b># LINK</b> Institut	UNIVERSITÄT Mannheim

Figure 8: Survey 1: Anchoring Group

Respondents in the Captcha Group were first shown a captcha test and then asked for

their policy bliss points. See Figure 9 for screenshots of the original survey questions (in German). The first screen said: "The computer now shows you a random number." The computer randomly showed one out of three pictures depicting 11, 39, or 390 according to the probability distribution 25%-50%-25%. "Please enter this number into the box provided below. Then procede to the next question. Please enter your answer into the box provided." The second screen said: "The German state has taken several measures to protect the environment. In your opinion, how much money should the German state spend on such measures per capita and year? Please enter your answer into the box provided." On the right-hand side of the box it said "Euros per capita and year".

1 iguio 0: 50	arvey 1. Captena Group			
Gesellschaft im Wandel		Hilfe		
Der Computer zeigt Ihnen jetzt eine zufällige Zahl an.				
39				
Tragen Sie diese Zahl bitte in das unten stehende Feld ein. Danach geht es mit der nächsten Frage weiter.				
Bitte tragen Sie Ihre Antwort in das Feld ein.				
<zurück weiter=""></zurück>	<b># LINK</b> Institut	UNIVERSITÄT Mannheim		
Gesellschaft im Wandel		Hilfe		
Der deutsche Staat setzt sich durch eine Vielzahl an Maßnahmen für den Umwelt- und Naturschutz ein.				
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für solche Maßnahmen ausgeben?				
Bitte tragen Sie Ihre Antwort in das Feld ein.				
Euro pro Einwohner im Jahr				
< Zurück Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim		

Figure 9: Survey 1: Captcha Group

Some questions unrelated to this project (also by other researchers) chosen by the Board of the GIP followed.

### B.2 Survey 2

The survey versions for the three groups of Survey 2 are presented one after another: No Info Group, Status Quo Group, Anchoring Group.

Respondents in the No Info Group were first asked about their gender and then about their policy bliss point without receiving any information on the current status quo policy. See Figure 10 for the original questionnaire (in German). It said:

"Anonymous Questionnaire. Question A: What is your gender? Male or Female? Question B: In Germany, various types of stage performances are publicly subsidized. Among these are performances at playhouses such as plays, operas, children and youth theater, concerts, dances, musicals, operettas, and puppet plays. Besides, stage performances of private theaters, independent orchestras, festivals, and radio orchestras are also publicly subsidized in Germany. In your opinion, how much money should the German state spend on subsidizing such stage performances per capita and year?" Next to the line on which to put the answer it said "Euros per capita and year".

Figure 10: Survey 2: No Info Group

ANONYMER FRAGEBOGEN

Frage A

Bitte geben Sie Ihr Geschlecht an.

männlich weiblich

#### Frage B

In Deutschland werden zahlreiche Bühnenveranstaltungen staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert.

Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung solcher Bühnenveranstaltungen ausgeben?

Euro pro Einwohner im Jahr

Respondents in the Status Quo Group were first asked about their gender and then about their policy bliss point while also receiving information on the current status quo policy. See Figure 11 for the original questionnaire (in German). It said:

"Anonymous Questionnaire. Question A: What is your gender? Male or Female? Question B: In Germany, various types of stage performances are publicly subsidized. Among these are performances at playhouses such as plays, operas, children and youth theater, concerts, dances, musicals, operettas, and puppet plays. Besides, stage performances of private theaters, independent orchestras, festivals, and radio orchestras are also publicly subsidized in Germany. The German state spends about 33 Euros per capita and year on subsidizing such stage performances. In your opinion, the German state should spend per capita and year on subsidizing such stage performances less than 33 Euros, 33 Euros, or more than 33 Euros? Question C: If you answered Question B with "less..." or "more...": In your opinion, how much money should the German state spend on subsidizing such stage performances per capita and year?" Next to the line on which to put the answer it said "Euros per capita and year".

### Figure 11: Survey 2: Status Quo Group

ANONYMER FRAGEBOGEN

#### Frage A

#### Bitte geben Sie Ihr Geschlecht an.

männlich weiblich

#### Frage B

In Deutschland werden zahlreiche **Bühnenveranstaltungen** staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert.

Der deutsche Staat gibt pro Einwohner im Jahr etwa 33 Euro für die Förderung der eben genannten Arten von Bühnenveranstaltungen aus.

Der deutsche Staat sollte Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen...

- weniger als 33 Euro ausgeben.
- genau 33 Euro ausgeben.
- mehr als 33 Euro ausgeben.

#### Frage C

Falls Sie Frage B mit "weniger..." oder "mehr..." beantwortet haben:

Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung solcher Bühnenveranstaltungen ausgeben?

Euro pro Einwohner im Jahr

Respondents in the Anchoring Group were first asked about their gender, then to give digits of a phone number, and then about their policy bliss point without receiving any information on the current status quo policy. See Figure 12 for the original questionnaire (in German). It said:

"Anonymous Questionnaire. Question A: What is your gender? Male or Female? Question B: Please enter the last two digits of your phone number (landline, alternatively mobile) into the box provided below. Question C: In Germany, various types of stage performances are publicly subsidized. Among these are performances at playhouses such as plays, operas, children and youth theater, concerts, dances, musicals, operettas, and puppet plays. Besides, stage performances of private theaters, independent orchestras, festivals, and radio orchestras are also publicly subsidized in Germany. Now consider the two-digit number you put into the box in Question B. In your opinion, the German state should spend per capita and year on subsidizing such stage performances less than that number in Euros, exactly that number in Euros, or more than that number in Euros? Question C: If you answered Question C with "less..." or "more...": In your opinion, how much money should the German state spend on subsidizing such stage performances per capita and year?" Next to the line on which to put the answer it said "Euros per capita and year".

### Figure 12: Survey 2: Anchoring Group

#### ANONYMER FRAGEBOGEN

### Frage A

#### Bitte geben Sie Ihr Geschlecht an.

männlich weiblich

### Frage B

Tragen Sie bitte die letzten beiden Ziffern Ihrer Telefonnummer (Festnetz, alternativ Mobiltelefon) in das unten stehende umrahmte Feld ein:



### Frage C

In Deutschland werden zahlreiche **Bühnenveranstaltungen** staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert.

Betrachten Sie nun die zweistellige Zahl, die Sie in Frage B in das umrahmte Feld eingetragen haben. Der deutsche Staat sollte Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen...

- weniger als diese Zahl in Euro ausgeben.
- genau diese Zahl in Euro ausgeben.
- mehr als diese Zahl in Euro ausgeben.

#### Frage D

Falls Sie Frage C mit "weniger..." oder "mehr..." beantwortet haben:

Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung solcher Bühnenveranstaltungen ausgeben?

Euro pro Einwohner im Jahr

In all three versions some questions unrelated to this project followed.

## B.3 Survey 3

The survey versions for the four groups of Survey 3 are presented one after another: No Info Group, Status Quo Group, Anchoring Group (i.e. phone anchor), Basic Anchoring Group (i.e. captcha anchor). The introductory screen was the same across all four versions (first screen in each of Figures 13, 14, 15, and 16). It said: "Part 2 of 4 [the other survey parts belonged to other research projects by other researchers]: Performances on German Stages. In Germany, various types of stage performances are publicly subsidized. Among these are performances at playhouses such as plays, operas, children and youth theater, concerts, dances, musicals, operettas, and puppet plays. Besides, stage performances of private theaters, independent orchestras, festivals, and radio orchestras are also publicly subsidized in Germany. In subsequent questions all these performances will shortly be called "stage performance". We are particularly

interested in your personal valuation of these stage performances and your attitude towards them being publicly subsidized. It is totally irrelevant for answering the questions if you yourself go to such stage performances are not. We are interested in your opinion in any case!"

Respondents in the No Info Group were directly asked about their policy bliss point without being given any information on the current status quo policy. See Figure 13 for screenshots of the original survey questions (in German). The second screen said: "In your opinion, how much money should the German state spend on subsidizing such stage performances per capita and year? Please give the amount in whole Euros." On the right-hand side of the box it said "Euros per capita and year".

Figure 13: Survey 3: No Info Group

Gesellschaft im Wandel		Hilfe			
Teil 2 von 4: Veranstaltungen auf Deutschlands Bühnen					
In Deutschland werden zahlreiche Bühnenveranstaltungen staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert.					
In den nun folgenden Fragen werden wir alle diese Veranstaltungen abgekürzt "Bühnenveranstaltungen" nennen. Wir interessieren uns insbesondere für Ihre persönliche Wertschätzung dieser Bühnenveranstaltungen und Ihre Einstellung zu deren staatlicher Förderung. Dabei ist es für die Beantwortung der Fragen ganz egal, ob sie selbst solche Bühnenveranstaltungen besuchen oder nicht. Wir sind in jedem Fall an Ihrer Meinung sehr interessiert!					
< Zurück Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim			
Gesellschaft im Wandel		Hilfe			
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen ausgeben?					
Bitte geben Sie den Betrag in ganzen Euro an.					
Euro pro Einwohner im Jahr					
< Zurück Weiter >	<b>+ LINK</b> Institut	UNIVERSITÄT Mannheim			

Respondents in the Status Quo Group received information on the current status quo policy and were then asked about their policy bliss point. See Figure 14 for screenshots of the original survey questions (in German). The second screen said: "The German state spends about 33 Euros per capita and year on subsidizing such stage performances. In your opinion, the German state should spend per capita and year on such stage performances more than 33 Euros, exactly 33 Euros, or less than 33 Euros?" The order of the different answering options was randomized across respondents. If the respondent answered "more" or "less", a third screen asking for the exact amount popped up: "In your opinion, how much money should the German state spend on subsidizing such stage performances per capita and year? Please give the amount in whole Euros." On the right-hand side of the box it said "Euros per capita and year". Figure 14: Survey 3: Status Quo Group

林林林	Gesellschaft im Wandel		Hilfe		
Teil 2 von 4: Veranstaltungen auf Deutschlands Bühnen In Deutschland werden zahlreiche Bühnenveranstaltungen staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusem wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert. In den nun folgenden Fragen werden wir alle diese Veranstaltungen abgekürzt "Bühnenveranstaltungen" nennen. Wir interessieren uns insbesondere für Ihre persönliche Wertschätzung dieser Bühnenveranstaltungen und Ihre Einstellung zu deren staatlicher Förderung. Dabei ist es für die Beantwortung der Fragen ganz egal, ob sie selbst solche Bühnenveranstaltungen besuchen oder nicht. Wir sind in jedem Fall an Ihrer Meinung sehr interessiert!					
< Zurück	Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim		
	Gesellschaft im Wandel		Hilfe		
Der deutsche Staat gibt pro Einwohner im Jahr etwa 33 Euro für die Förderung der eben genannten Arten von Bühnenveranstaltungen aus.					
O mehr al O genau 3 O weniger	s 33 Euro ausgeben. 33 Euro ausgeben. • als 33 Euro ausgeben.				
< Zurück	Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim		
in the last	Gesellschaft im Wandel		Hilfe		
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen ausgeben?					
Bitte geben Si	e den Betrag in ganzen Euro an. pro Einwohner im Jahr				
< Zurück	Weiter >	# LINK Institut	UNIVERSITÄT Mannheim		

Respondents in the Anchoring Group were first asked about their phone number and then to relate it to their policy bliss point without being given any information on the current status quo policy. See Figure 15 for screenshots of the original survey questions (in German). The second screen said: "Consider any phone number you know - for example, the number of a relative, a friend, or also your own number. Please enter the last two digits of that number into the box provided below." The third screen continued: "You gave the number [the respondent's answer to the previous question was inserted in **bold** here by the computer] as response to the previous question. In your opinion, the German state should spend per capita and year on subsidizing such stage performances "more than [the respondent's answer to the previous question was inserted here by the computer Euros, exactly [the respondent's answer to the previous question was inserted here by the computer] Euros", or less than [the respondent's answer to the previous question was inserted here by the computer Euros." The order of the different answering options was randomized across respondents. If respondents chose either the "more" or the "less" option, a fourth screen popped up asking for the exact amount: "In your opinion, how much money should the German state spend per capita and year on subsidizing such stage performances? Please give the amount in whole Euros." On the right-hand side of the box it said "Euros per capita and year".

Figure 15: Survey 3: Anchoring Group

Gesellschaft Hilfe im Wandel Teil 2 von 4: Veranstaltungen auf Deutschlands Bühnen In Deutschland werden zahlreiche Bühnenveranstaltungen staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert. In den nun folgenden Fragen werden wir alle diese Veranstaltungen abgekürzt "Bühnenveranstaltungen" nennen. Wir interessieren uns insbesondere für Ihre persönliche Wertschätzung dieser Bühnenveranstaltungen und Ihre Einstellung zu deren staatlicher Förderung. Dabei ist es für die Beantwortung der Fragen ganz egal, ob sie selbst solche Bühnenveranstaltungen besuchen oder nicht. Wir sind in jedem Fall an Ihrer Meinung sehr interessiert! UNIVERSITÄT Mannheim + LINK Institut < Zurück Weiter > Gesellschaft Hilfe im Wandel Denken Sie bitte an irgendeine Telefonnummer, die Sie kennen - also zum Beispiel die Nummer eines Verwandten, eines Freundes oder auch Ihre eigene Nummer Tragen Sie bitte die letzten beiden Ziffern dieser Nummer in das unten stehende Feld ein. UNIVERSITÄT MANNHEIM < Zurück Weiter > Gesellschaft Hilfe im Wandel Sie haben als Antwort auf die letzte Frage die Zahl 12 angegeben. Der deutsche Staat sollte Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen ... O ... mehr als 12 Euro ausgeben. O ... genau 12 Euro ausgeben. O ... weniger als 12 Euro ausgeben. UNIVERSITÄT Mannheim **# LINK** Institut < Zurück Weiter > Gesellschaft Hilfe im Wandel Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen ausgeben? Bitte geben Sie den Betrag in ganzen Euro an. Euro pro Einwohner im Jahr **# LINK Institut** MANNHEIM < Zurück Weiter >

Respondents in the Captcha Group were first asked to complete a captcha question and then about their policy bliss point without being given any information on the current status quo policy. See Figure 16 for screenshots of the original survey questions (in German). The second screen said: "The computer now shows you a random number." The computer randomly showed one out of three pictures depicting 33, 66, or 99 according to the probability distribution 66.66%-16.66%-16.66%. "Please enter this number into the box provided below. Then continue to the next question." The third screen said: "In your opinion, how much money should the German state spend per capita and year on subsidizing such stage performances?" On the right-hand side of the box it said "Euros per capita and year".

### Figure 16: Survey 3: Captcha Group

Gesellschaft im Wandel		Hilfe		
Teil 2 von 4:         Veranstaltungen auf Deutschlands Bühnen         In Deutschland werden zahlreiche Bühnenveranstaltungen staatlich gefördert. Darunter fallen Veranstaltungen an Schauspielhäusern wie Schauspiel, Oper, Kinder- und Jugendtheater, Konzert, Tanz, Musical, Operette und Figurentheater. Außerdem werden in Deutschland auch Bühnenveranstaltungen von Privattheatern, selbstständigen Kulturorchestern sowie Festspiele und Rundfunkorchester staatlich gefördert.         In den nun folgenden Fragen werden wir alle diese Veranstaltungen abgekürzt "Bühnenveranstaltungen" nennen. Wir interessieren uns insbesondere für Ihre persönliche Wertschätzung dieser Bühnenveranstaltungen und Ihre Einstellung zu deren staatlicher Förderung. Dabei ist es für die Beantwortung der Fragen ganz egal, ob sie selbst solche Bühnenveranstaltungen besuchen oder nicht. Wir sind in jedem Fall an Ihrer Meinung sehr interessiert!				
< Zurück Weiter >	+ LINK Institut	UNIVERSITÄT Mannheim		
Gesellschaft im Wandel		Hilfe		
Der Computer zeigt Ihnen jetzt eine zufällige Zahl an.				
< Zurück Weiter >	# LINK Institut	UNIVERSITÄT Mannheim		
Gesellschaft im Wandel		Hilfe		
Wie viel Geld sollte der deutsche Staat Ihrer Ansicht nach pro Einwohner im Jahr für die Förderung der eben genannten Arten von Bühnenveranstaltungen ausgeben?				
Euro pro Einwohner im Jahr				
< Zurück Weiter >	<b># LINK</b> Institut	UNIVERSITÄT Mannheim		

Some questions unrelated to this project (also by other researchers) chosen by the Board of the GIP followed.