

האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

**LOSS AVERSION AND THE
STATUS-QUO LABEL BIAS**

by

AVITAL MOSHINSKY and MAYA BAR-HILLEL

Discussion Paper # 373

January 2005

מרכז לחקר הרציונליות
**CENTER FOR THE STUDY
OF RATIONALITY**

Feldman Building, Givat-Ram, 91904 Jerusalem, Israel
PHONE: [972]-2-6584135 FAX: [972]-2-6513681
E-MAIL: ratio@math.huji.ac.il
URL: <http://www.ratio.huji.ac.il/>

Loss Aversion and the Status-Quo Label Bias

Avital Moshinsky

Maya Bar-Hillel

National Institute for Testing and Evaluation
and The Hebrew University

The Hebrew University

Jerusalem, Israel

January, 2005 (revised April 21,2007)

This work was supported by grants from the The Sturman Center for Human Development, The Center for the Study of Rationality, and The Eshkol Institute for Economics, Social and Political Research in Israel (all three of The Hebrew University), and The Israel Foundations Trustees. We thank the National Institute for Testing and Evaluation for their support. This paper is based on a PhD dissertation carried out by the first author under the supervision of the second author.

Abstract

It has been noted and demonstrated that people are reluctant to make changes in their current state (called *the status quo bias*, Samuelson & Zeckhauser, 1988), and to trade objects they own (called *the endowment effect*, Thaler, 1980). This reluctance has been explained by a combination of loss aversion and reference dependence which causes the status quo to appear better than its alternative, *ceteris paribus*. In the present study, respondents were asked to rate the attractiveness of various policies, and to list their pros and cons. We find that just labeling some state of affairs *status quo* enhances its rating (which we call the *status quo label bias*); namely, a policy seemed more attractive to respondents who thought it is the status quo than to those who did not. An analysis of the listed pros and cons provides evidence that a model of the balance of a policy's pros and cons is a good predictor of that policy's attractiveness. Rendering the pros and cons in terms of losses and gains provides evidence that losses do, indeed, loom larger than gains. When put together, our results provide an empirical grounding for the loss aversion explanation of the status quo bias.

Inertia -- the tendency of any state of affairs to persist in the absence of external influences -- is a feature not only of the physical world, but of the social world as well. It has been studied in social -- especially organizational and institutional -- contexts under various names, such as *resistance to change* (Coch & French, 1948), *choice deferral* (see, e.g., Anderson, 2003) and *omission bias* (Ritov & Baron, 1992). Clearly, the very real behavioral tendencies to resist change, to put off decisions and to prefer inaction over action and not-deciding over deciding are advantageous to the status quo; the status quo, being almost always also the default, almost never requires action or decision to endure.

People's tendency to "stick with the status quo alternative, [e.g.] to follow customary company policy, to elect an incumbent to still another term in office, to purchase the same product brand, or to stay in the same job" (Samuelson & Zeckhauser, 1988, p. 8) has been explicitly linked to these inertia tendencies. Ritov and Baron (1992, p. 49) say: "The term status quo bias has been used to describe people's tendency of "doing nothing or maintaining one's current or previous decision" (Samuelson & Zeckhauser, 1988)". This implies that the advantage that the status quo notoriously has over alternative states of affairs is a by-product of people's preference for not deciding over deciding, or for not acting over acting.

The status quo bias has been likened to the endowment effect (e.g., Samuelson & Zeckhauser, 1988; Thaler, Kahneman & Knetsch, 1992). Conceptually, the status quo bias is to states of affairs what the endowment effect is to goods. The endowment effect refers to the fact that selling prices are higher than buying prices, so that once endowed with a good, people exhibit reluctance to exchange it or to sell it. Some studies of the endowment effect bypassed buying and selling prices, instead looking directly at exchange rates. States of affairs are typically neither priced nor traded, but people exhibit a similar reluctance to abandon a prevailing state of affairs in favor of an alternative one.

In one famous study of the endowment effect, student participants were shown university coffee mugs and Swiss chocolate bars, and then endowed with either the one or the other (Knetsch & Sinden, 1984; Kahneman, Knetsch & Thaler, 1990). They were told that they could either keep the good they had just received, or exchange it for the other good. The objects were familiar and easily available at the local college bookstore, where they retailed for similar prices. The participants had been endowed with them but moments before. The exchange involved nothing more than telling the experimenter that you wanted to exchange. Yet almost all declined it.

Using a similar paradigm, albeit with hypothetical rather than real options, Samuelson and Zeckhauser (1988) "endowed" student participants with various states of affairs, by asking them to imagine themselves as decision makers, and then to choose between some options, one of which was designated as being the status quo. For example, when asked to imagine a job choice, assistant professor positions were described (in terms of prestige of the school, salary, and tenure prospects). Participants were asked to imagine that they already held one of these positions. An option's popularity increased when it was designated as the status quo.

In a clever study, Ritov and Baron (1992) severed the link between the status-quo and inaction by telling their respondents that some hypothetical status quo will change unless they take a hypothetical action to preserve it. They found that the bias towards omission persisted in their respondents' decisions, even though omission now led to a departure from the status quo. They concluded that "The observed status quo bias is at least partly caused by a bias towards omissions" (p. 49). Their term (not their data) suggests that the bias against commissions is primary, and the status quo bias derives from it. What they really showed, however, is that "The observed status quo bias is at least partly caused by a bias towards the default". This goes beyond simply replacing "omission" by "default"; the latter, unlike the

former, does not connote an attitude towards change or action in itself. Like many others, Baron and Ritov asked participants to make decisions rather than judgments, and then explained the biased *decisions* (i.e., towards refraining from acting) as resulting from biased *judgment*.

The following quotes show how the endowment effect, the status quo bias, and the omission bias, have all been explained in essentially the same way by invoking loss aversion (Kahneman & Tversky, 1979; Thaler, 1980) and reference dependence (Tversky & Kahneman, 1991; Kahneman, 1992). Thaler, Kahneman and Knetsch (1992) say that both the endowment effect and the status quo bias are "a manifestation of ... *loss aversion* – the disutility of giving up an object is greater than the utility of acquiring it" (p. 63) and "One implication of loss aversion is that individuals have a strong tendency to *remain at the status quo* [our italics], because the disadvantages of leaving it loom larger than the advantages" (p. 68). Similarly, when accounting for the omission bias, Baron and Ritov (1994) say: "The commission option is represented as a gain in some dimension and a loss in the other, relative to the omission (default), which is taken as the reference point. Because the negative utility of losses is greater than the utility for equivalent gains, people will prefer the default." (p. 479).

Let us elaborate on this process. When comparing two options, A and B, their comparative pros and cons may be considered. This comparison is reference dependent, namely, it does not necessarily come out the same if it is carried out from a position of having A, or having B, or having neither. When exchanging A for B, the advantages of A that are given up in the exchange are experienced as losses, because one already had them. In contrast, the advantages one acquires in the exchange constitute gains. This also holds when talking about the selfsame advantages, namely, when A's advantages are considered from the point of view of A versus from the point of view of B. Since "losses loom larger than gains"

(Kahneman & Tversky, 1979, p. 279), advantages one has loom larger, other things equal, than those one does not. When A is the status quo, or the endowment, or the default, this account is, respectively, an account of the status quo bias, or the endowment effect, or the omission bias. Importantly, in this account it is the fact that the status quo tends to look better (a judgment bias) that is primary, and the reluctance to change (a decision bias) derives from it.

Of course, it is quite possible that decision makers are subject to two kinds of biases that serve the status quo, one in judgment one in decision. The first is the combination of reference dependence and loss aversion that enhances the likeability of the reference point, as described above. For it to operate, the chooser must actually contemplate and compare options, though perhaps it operates even in the presence of a single option, if just being owned enhances likeability (see mere ownership effect, Beggan, 1992; motivated taste change, Strahilevitz & Lowenstein, 1998). The second is aversion to making decisions (Beattie, Baron, Hershey, Spranca, 1994). Clearly, the latter, if and when it happens, can be ontologically independent of the properties of the options under consideration, whereas the former operates on the properties of the options. A nice example is provided by Richard Feynman: "One time someone tried to change my mind about Caltech. ... Chicago were looking for someone to take [Fermi's] place. ... they asked me if I wanted to know the salary. "Oh, no!" I said. "I've already decided to stay at Caltech. ... Besides, I've decided not to decide any more; I'm staying at Caltech for good." (1985, p. 236)

The status quo bias could well be, and probably often is, determined by both. The literature, however, does not draw the distinction between them sharply enough. Thus, studies that used decisions as their dependent variable gave an account based in judgment, the authors not always realizing that the latter underdetermined the former. Consider the following quotes (in both, italics ours): "Those who were given lottery tickets *seemed to like*

them more than those who were given money" (Thaler, Kahneman & Knetsch, 1992, p. 64)

"Previous work on the endowment effect has demonstrated that current ownership status *affects object valuation*" (Strahilevitz & Loewenstein, 1998, p. 276). The evidence for these assertions were reluctance to trade rather than actual valuations.

Asking participants to decide rather than evaluate incurs another limitation. Where policies are concerned, the decision has to be hypothetical. It is difficult to endow people at random with states of affairs (as contrasted with the ease of endowing them with goods). If the endowment is hypothetical, the decision must also be. In fact, even regarding real policies, respondents are rarely in a position where their individual decision can change a real-world policy. Hence, controlled studies of the SQB that used decision as a dependent variable had to resort to hypothetical states of affairs and to hypothetical decisions.

The very resemblance of some of the hypothetical policies that were used to real policies is often dubious. For example, Schweitzer (1994) asked his respondents to choose among 4 valves for a dam, which: "... will channel different amounts of water at different speeds down the river bed, ... [causing] certain damage" (p. 475), but all they were told about the damage is its overall dollar cost to the environment, and to personal property. The full characterization and implications of real policies are seldom either consensual or reducible to dollar amounts in this fashion. In fact, often they cannot even be properly guessed. Thus, Israeli law regarding the election of a Prime Minister was recently changed twice within a decade – first, in the expectation that it will decrease the power of small parties, and again after the realization that it actually increased their power. The law's effects were hotly debated -- both before and after.

It is different, of course, when field data are used, because then one can consider real policies and real decisions. A striking example is provided by Johnson and Goldstein (2003). Effective rates of consent for organ donations were compared across the countries of Western

Europe. Rates hover near 100% in countries where consent is the default (but can be withdrawn), but rarely exceed 20% in countries where explicit consent is required. The demographics of the different countries cannot account for these differences. Other examples abound. Samuelson and Zeckhauser documented status quo inertia in Harvard faculty choices among health plans, and in nationwide faculty choices among TIAA/CREF retirement funds. Johnson, Hershey, Mezaros & Kunreuther (1993) compared choices among automobile insurance policies, finding that 70%-80% of people tended to stick with the default policy.

In the present paper, we wish to establish that the status quo bias is indeed -- as believed by previous researchers -- at least partly a judgmental bias, and that this judgment is indeed biased as a result of loss aversion and reference dependence, as previously claimed (but not proven) by those researchers. We propose to establish the former by asking people for a judgment -- how much they *like* the status quo or its alternative -- rather than whether they choose to remain at the status quo or to switch away from it. This will render irrelevant their attitudes to action versus inaction. We propose to establish the latter by asking people to list the advantages and disadvantages of the considered options, to see how well a model of these in terms of gains and losses can account for the magnitude of the status quo bias in the data.

We shall call a positive difference between the attractiveness rating given to some alternative when it is the status quo and its rated attractiveness when it is not the status quo the *status quo label bias*, or *SQLB*. We wish to distinguish it from the status quo bias, which is a bias of decision. The SQLB can occur in a specific pair of policies even when the status quo is liked *less* than its alternative, as it predicts only that an alternative will be liked more when it carries the status quo label. Whereas inertia, reluctance to change, or decision aversion contribute to a status quo bias, they do not necessarily affect the SQLB.

The present study concerns policies -- real, not hypothetical. It asks participants for judgments, not decisions. In Study 1 we sought policies that provided "natural experiments",

and in Study 2 we ran a fully controlled experiment. In both studies we used a fair number of policy examples, each of which can be regarded as a self-contained experiment in itself.

Study 1

In the name of diversity, we employed several types of policy pairs (see Table 1). In one group of policies, we sought policy issues regarding which the status quo in Israel is different than the status quo in at least some parts of the United States, but arguably not for inherent reasons of cultural differences between the two countries. We used three such policies (rows 1-3): 1. Voting: voting by mail prior to Election Day is allowed in the US, whereas in Israel one must show up at the voting booth in person on Election Day. 2. Right turn on a red light: allowed in the US unless prohibited, prohibited in Israel unless allowed (some intersections have special right turn lanes). 3. Emissions tests for cars: mandatory in some states of the US, not mandatory (at the time the data were collected) in Israel. The fact that these policies are not uniform across the US, and that one has changed in Israel since (mandatory emissions test), supports our argument for a "natural" experiment.

Another policy pair that belongs in this group conceptually, even though it does not involve the US versus Israel, concerns lecture breaks at The Hebrew University. The typical class meeting at The Hebrew University consists of two consecutive 45 minute sessions. For arbitrary historical reasons, classes on one Hebrew University campus break for 15 minutes between the two sessions, whereas classes on the other campus meet for 90 consecutive minutes (row 4).

In another group, we used two policy pairs where policies regarding different members of some common superordinate category are different; smoking cigarettes is legal whereas smoking marijuana is not; the profession of journalist does not require licensing, whereas that of architect does (rows 5,6). It was our judgment that arguably, these differences

are somewhat arbitrary (e.g., marijuana is less dangerous to one's health than cigarettes; journalists hold more power to harm than architects; etc.).

Table 1
Percent of respondents who like their SQ policy better than an alternative:
Past, future, or elsewhere

The SQ is:	%	N	The SQ is:	%	N	SQL effect
Voting only at the polls	82	28	Absentee voting ¹	95	22	77
No right turn on red light	75	28	Right turn on red light ¹	91	22	66
No mandatory emissions tests	22	22	Mandatory emissions tests ¹	95	22	17
90 minute lecture periods	92	25	2 x 45 minute lecture periods	48*	27	40
Smoking cigarettes legal	65*	29	Smoking marijuana illegal ²	69	32	38
Architects are licensed	100	29	Journalists are unlicensed ²	66	29	66
Parents may know sex of fetus	77	30	Parents may not choose fetus sex	86	28	63
Identify people from their DNA	72	25	No predicting disease from DNA	65*	31	37
Parents know no. of fetuses ³	97	31				
Employ In Vitro Fertilization ³	97	29				
			No nano-components in people's brains, nor intervention in brain activities ⁴	93	27	
			No multi-purpose "smart card" (e.g., credit card, medical card, ID, passport, etc.) ⁴	43*	28	
			Ministry of Interior documents not yet obtainable through the Internet ⁴	19*	26	

* These percents are not significantly greater than 50%. All others are significant, and at .01 at least.

¹ These respondents were American undergraduate students at The University of Illinois

² These are not quite parallel

³ These present practices were compared only to the past

⁴ These present practices were compared only to a future possibility

The third group of policies we used are not so much policies as they are practices, inasmuch as the *de facto* status quo preceded the formal or legal status quo. These are policies or practices which change as a result of technological or scientific innovations.

For example, until the middle of the 20th century, a fetus' sex could not be diagnosed prior to birth (row 8, left), so that even if one thought it a good idea, it was not feasible. As of the time of our study, choosing a fetus' sex at conception was not yet a viable practice (row 7, right), hence essentially unavailable even for respondents who prefer it. There are a total of 9 present practices (in rows 7-13) that were compared either to past practices (left column) or to futuristic practices (right column). Some

The practices we used (like the policies we used) were not sampled in any systematic fashion from any population of practices. We just strove for practices whose past was quite acceptable in its day, or whose future seems inevitable. Considering technological progress on a time line, at what point on this time line people -- such as our respondents -- are queried is arbitrary. There is no reason why people should systematically prefer present practices to *both* past practices *and* future practices – unless the present benefits from being the SQ.

Method

Participants and Procedure. Respondents were 570 undergraduate students, almost all from The Hebrew University (about 60% females; age of most between 21 and 25). Participants were recruited in lecture halls at the end of a lecture. They were asked to stay in class and answer a short questionnaire, with the promise that one respondent, as determined by lottery, would win a monetary prize. Prizes (in New Israeli Shekels) were about two times N (rounded up), where N is the number of respondents in the lecture hall. The average prize was about 100 NIS (then about \$25). Students were assigned at random to questionnaires (so students in the same hall were filling out different questionnaires). They were queried about a single policy issue. The questionnaire rarely took more than 10 minutes to complete.

Tasks. The questionnaires contained several questions regarding two alternative policy proposals on some issue (see Table 1). Participants were asked the following, in this order:

1. To think of and list advantages and disadvantages of the alternative policy (i.e., the one which is not the status quo), while rating their importance, on a scale of 1 (not so important) to 4 (very important).
2. To note which policy they like better.
3. To rate each policy, on a scale of 1 (very bad) to 6 (very good).

Results

The choice task. Table 1 shows the percent of respondents who liked their status quo policy better than the alternative (columns 2, 4). Only 4 of the 21 percentages in Table 1 are smaller than 50%. This means that overwhelmingly, people like their own status quo better than the alternative. In all cases where column 2 and 4 both have entries (i.e., rows 1-8), observing 50% in both is tantamount to a preference reversal. Only in the case of mandatory emissions testing did we not find a preference reversal; Israeli students liked the US policy of mandatory testing better than their own status quo. Still, they did not like it to the same extent as the American students did: 78% vs. 95%, respectively. In other words, although students in both countries preferred having mandatory emissions tests, those for whom it was the status quo liked it even more. So this issue shows a preference shift due to the SQLB, if not a preference reversal.

Recall that the SQLB does not require the status quo to be liked better than its alternative (and where the percent figure is less than 50% it was not). All it requires is that a policy be liked more when it is the status quo than when it is not. The last column of Table 1 shows the SQL effect, namely, the difference between the percent of people who preferred a certain policy to its alternative when that policy was their status quo as compared to people for whom it was not. We calculated these only for the 8 policy pairs that seemed to form a natural experiment of sorts. These differences, which may be considered quantitative measures of the SQL effect, are all positive, ranging from 17% to 77%, with a mean of 47%.

46% happens also to be mid range, and close to the median. Thus, they show a Status Quo Label Bias. The SQLB could not be calculated in the other table rows, for lack of the required data.

In the last two rows of Table 1, the percents preferring the current practice to what the future holds are smaller than 50%, meaning that the future is preferred to the SQ (but it is nearly here already). Indeed, in 7 of the 9 cases where present practices were compared to either past or future ones, the more technologically advanced practice was preferred, even if it is not the present practice. Because the SQLB does not imply that the status quo should be liked more than its alternative, neither does it require the present to be preferred to the future, and such a preference is not inconsistent with the SQLB. Evidently, two effects are at work in the timeline group of policies -- both a status quo label effect and an "I love progress" effect. This explains why the present was preferred in 100% of the 4 comparisons with the past (rows 7-10), but in only 60% of the 5 comparisons with the future (rows 7, 8, 11-13). Similarly, the strength of the preference for the present was higher when compared with the past (86% on average), where it benefits from both effects, than when compared with the future (61% on average), where it benefits only from the progress effect.

Although Table 1 shows a status quo bias, its magnitude cannot be attributed solely to the status quo label bias, because the policies labeled *SQ* really *were* status quo – a fact which goes beyond labeling. We shall deal with this further in the Discussion.

The rating task. In addition to asking people which policy they liked better, we also asked them to rate just how much they liked the two alternatives, on a scale of 1 to 6. Table 2 shows the mean ratings of the prevailing policy, SQ, and of its alternative, NSQ, for different SQ policies. In the rating task, the data for each policy cannot be reduced to a single number, as it was for the choice task; whereas the percent choosing a policy always

complements the percent given to its alternative, no such constraints apply to the ratings.

Therefore Table 2 shows more columns of data than Table 1.

Table 2
Mean policy ratings for the prevailing (SQ), and for the alternative (NSQ), policies

Policy issue	SQ		NSQ		SQ effect t-test.	Policy issue	SQ		NSQ		SQ effect t-test.	SQLB
	Mean	SD N	Mean	SD N			Mean	SD N	Mean	SD N		
Voting in polls	4.5	1.1 28	2.8	1.4 28	1.7 3.90*	Absentee voting	4.7	0.8 22	2.4	0.8 22	2.3 7.74*	4.0
No right turn on red	4.6	0.9 29	3.1	1.3 29	1.5 4.03*	Right turn on red	4.4	0.7 23	3.5	1.1 23	0.9 3.36	2.5
No test of emissions	3.0	1.2 24	4.3	1.7 24	- 1.2 -2.37 NS	Mandatory testing	4.9	0.7 23	2.1	1.2 23	2.8 7.60*	1.6
90 min. lectures	5.4	0.8 26	2.6	1.6 32	2.8 6.97*	2 x 45 min. lectures	4.0	1.1 30	3.7	1.5 30	0.3 0.85 NS	3.1
Cigarettes legal	4.1	1.6 30	2.7	1.8 30	1.4 2.64	Marijuana illegal	3.8	1.3 32	2.9	1.6 32	0.9 1.86 NS	2.3
Architects licensed	5.0	1.0 30	1.7	0.8 31	3.3 14.30*	Journalists unlicensed	3.8	1.2 28	3.5	1.1 28	0.3 0.72 NS	3.6
Identify by DNA	4.0	1.32 27	2.9	1.58 27	1.1 2.05	Predict from DNA	3.9	1.05 32	3.3	1.35 32	0.6 1.73	1.7
Know sex of fetuses	5.0	1.02 31	3.3	1.39 30	1.7 4.59*	Choose sex of fetuses	4.6	1.19 27	2.5	1.36 26	2.1 2.05	3.8
Know # of fetuses	5.1	0.65 31	1.9	0.81 26	3.1 13.89*							
Employ IVF	5.0	0.92 28	2.0	1.24 29	3.0 9.17*							
						Nano-components	4.9	1.03 28	2.4	1.22 28	2.5 7.23*	-
						"smart card"	3.8	0.95 30	3.8	1.41 30	0 NS	-
						Certificates on Internet	3.4	0.69 26	4.0	1.46 26	- 0.6 NS	-

* Significant to 0.001 at least.

The status quo effect is the difference between the rating of the SQ policy (columns 2, 6) and the rating of the NSQ policy (columns 3, 7). The differences between columns 2 and 3, and columns 6 and 7 appear, respectively, in column 4 and 8. In 18 of the 21 cells in these columns, this difference is positive, and then, it is usually significant. The effect size according to Cohen's index (Cohen, 1988) is around 1.1, a large-size effect.

On its face, even though the choice task and rating task are not logically equivalent, and are not constrained to yield similar results, it would be odd if they did not. After all, the choice task tells us *how many* people liked A better than B, and the rating task tells us *by how much* people liked A better than B. Indeed, the 18 positive cells are for the same 18 policies that, as SQs, were preferred to their alternative in the direct comparison (Table 1). In addition, the Pearson correlation between the status quo's relative popularity in the choice task (Table 1, columns 2, 4) and in the rating task (Table 2, column 4, 8) is 0.93, supporting the notion that these are simply two measures of the same effect. The SQLB in Table 2 is the sum of columns 4 and 8, in rows 1-8, which form a kind of natural experiment. Its correlation with the SQLB in Table 1 is 0.83.

Listing pros and cons. Not all participants who were asked to discuss the alternative policy bothered to perform the task of listing pros and cons (88% did), and not all of those who listed pros and cons bothered to give weights (76% did). Across all 21 policies, more cons were listed than pros (Table 3, row 1), cons were weighted more than pros (row 2, within respondent; row 4, across respondents), and the overall contribution of cons was larger than of pros (row 3). Since the pros of a policy you don't have are the gains from switching to it, and its cons are the losses from switching to it, "cons (of a NSQ) loom larger than pros" is tantamount here to "losses loom larger than gains".

Table 3
Do pros (=losses) loom larger than cons (=gains)?

	Cons (= losses)		Pros (= gains)		t-test *		L>G?
	Mean	SD	Mean	SD	t	df	
Number (within S)	1.90	1.10	1.48	1.10	6.47	499	Yes
Weight (within S)	3.28	0.72	3.06	0.95	2.58	304	Yes
Contribution (within S)	6.52	3.70	4.77	3.69	6.32	379	Yes
Weight (across Ss)	3.30	0.83	3.06	0.89	5.13	936	Yes

* All t-tests significant at $p < .0001$.

For a concrete example, consider the issue of emissions tests for vehicles. Table 4 shows the most common considerations that participants raised when listing pros and cons on this issue (in ascending order of popularity): these tests cost time and money, on the one hand (rows 1,2), but they enhance air quality and vehicle fitness, on the other (rows 3,4). If the SQ is mandatory testing (last column), then removing it causes costs to drop (a gain) and air quality to deteriorate (a loss), whereas if the SQ does not require emissions testing (middle column), then imposing them causes costs to rise (a loss) and air quality to improve (a gain). Table 4 shows the mean importance participants attached to these specific considerations when they were listed as losses versus when the same considerations were listed as gains.

Table 4
Weight of arguments for and against mandatory emissions tests

Argument	SQ – Voluntary testing	SQ – Mandatory testing
	Discuss mandatory testing	Discuss voluntary testing
The test costs money	con (loss) 2.9	pro (gain) 2.4
It's a hassle to have the test	con (loss) 3.0	pro (gain) 1.8
Testing reduces air pollution	pro (gain) 3.4	con (loss) 3.6
Tested vehicle is "cleaner"	pro - not even mentioned	con (loss) 3.3

More importance was attached to an argument when it represented a loss with respect to the SQ than when it offered a gain.

Loss aversion and status quo effect. For each individual respondent discussing one of the 21 policies, we computed the sum of weights given to the pros (i.e., "gains") of the discussed NSQ policy and subtracted from it the sum of weights given to its cons (i.e., "losses"). Loss aversion predicts that they should, on average, be negative. Indeed, 16 of the 21 differences were ($z=2.19$, $p=0.001$).

It stands to reason that the rating a policy receives depends on some judged net balance of its pros and cons. Table 5 shows various correlations between the pros-and-cons data and the ratings data. Its columns correspond to four different models for balancing the pros and cons of a policy. Within respondent, we have the number of pros minus the number of cons (column 1), the mean weight of the pros minus the mean weight of the cons (column 2), and the overall contribution (i.e., the sum of weights) of the pros minus that of the cons (column 3, our favorite, hence boldfaced). In addition, we have the weight of the mean pro minus the weight of the mean con calculated across respondents (column 4).

Table 5
Correlations between argument-measures and policy-ratings *

	Mean number of pros-cons, within S	Mean weight of pros-cons, within S	Mean contribution of pros-cons, within S	Mean weight of pros-cons, across Ss
Individual respondents ¹	0.39 N = 499	0.35 N = 305	0.51 N = 379	-
21 Policy ratings	0.57	0.61	0.55	0.76
21 Policy SQ effects	0.55	0.55	0.56	0.75

* All correlations are significant at .05 or better.

¹ The number in column 2 is smaller than in column 3 because participants who listed either only pros or only cons had to be dropped

The rows of Table 5 show different ways in which the ratings data can be grouped. In the first row, the unit for the correlation was the individual respondent. The number of respondents on the basis of whom this correlation was computed varies from cell to cell, because respondents who did not list arguments or did not give importance ratings had to be dropped from some calculations. For each calculation we used the maximal number of respondents on whom it could be calculated.

The second row shows the correlation with respondents grouped according to which of the 21 policies they discussed. The 21 means of the 4 models were correlated with the mean ratings of the NSQ policies (only NSQ policies were discussed), shown in columns 3 and 7 of Table 2. In addition, since we wish to establish that the models also predict the SQ effect, we correlated them with columns 4 and 8 of Table 2 as well. These correlations appear in row 3 of Table 5.

Discussion

Although we strove to use policy pairs that would produce a "natural experiment", we are aware of possible weaknesses in our choices. The results are highly suggestive of a status quo label bias, but one could argue that they show only that people like their own SQ, which could be for quite valid reasons, rather than because of a label bias. Policies do not, generally speaking, become the SQ at random, or completely arbitrarily. Rather, they might have been, and might still be, the preferred policy even from a neutral standpoint, even behind a "veil of ignorance". Moreover, people are familiar with their own SQ, and it could well be familiarity, rather than the status quo label, which breeds liking (Zajonc, 1968).

A SQLB would be more compelling if it were found in a completely controlled setup, where indeed the only factor that distinguishes the SQ policy from an alternative policy is that it is thus labeled. In other words, it would seem desirable to endow people at random with

policies, in a controlled fashion, much as they were endowed with goods in the classical studies of the endowment effect.

Study 2

How can we have a fully controlled experiment with real status quo policies, when real policies rarely become the SQ at random? In previous controlled studies of the SQB, respondents were endowed with hypothetical policies (e.g., Ritov & Baron, 1992; Samuelson & Zeckhauser, 1988; Schweitzer, 1994; Tetlock & Boettger, 1994). Our solution was to use issues in regards to which our respondents by and large simply did not know what the prevailing policies were. Thus, they could be credibly told either one thing or another, and so we could "assign" them to policies at random. In particular, they could not be said to be more familiar with, accustomed to, or committed to (Samuelson & Zeckhauser, 1988) one than the other.

The policies we used in Study 2 are described in Table 6 (in the very words in which they were described, albeit in Hebrew, to the respondents). Nothing was said about what their costs, consequences, implications, side effects, or pros and cons might be. Rather, these were left up to the respondent to consider and discuss. We strove to use policies that could be discussed intelligently by lay people, and to pair them with plausible alternatives.

Method

Participants and Procedure. Respondents were about 900 undergraduate students from The Hebrew University (53% female; most 21 - 25 years old)¹. They were approached after lectures in their lecture rooms and asked to stay behind and answer a short questionnaire.

¹ Exact Ns are reported for each data point in the Results. Occasional disparities reflect occasional missing data.

Table 6
The policy issues and their alternatives

Policy issue	Policy options (the one marked with a * was the factual SQ)
Advertising alcohol on TV	* Impose certain restrictions on advertising alcohol on TV, regarding content, age of models, and hours of airing. Allow the advertising of alcohol on TV without restrictions.
Arts and crafts in elementary school ^{1,2}	Devote 5 hours to general classes such as sports, art, drama, music, etc. Devote 7 (3) hours a week to these classes, taking 2 hours from (adding 2 hours to) theoretical studies.
Affirmative action in college admissions	* University admission will be determined by a score combining mean matriculation grade and Psychometric Entrance Test grade, as well as taking into account certain socio-economic factors of some candidates deemed worthy of preferential treatment. University admission will be determined by a score combining mean matriculation grade and Entrance Test grade only.
Feeding alley cats ²	Allowed. Prohibited.
Legalizing prostitution	* Allow prostitution, if it is done without public disturbance, in a private location, and with nobody but the prostitute gaining monetarily from it. Forbid prostitution by law.
Rescuing people in peril	* A person who does not voluntarily try to prevent damage is legally responsible, and can be sued. No legal responsibility on a person who could have, under certain circumstances, acted to prevent damage to people or property. I.e., if that person did not so act, he or she cannot be sued.
Owning Rottweilers as pets ²	Prohibited. Allowed.
Taking testimony from child victims of sexual abuse	* Child victims will be interrogated by specialized child interrogators, not by the police. If the case goes to court, the interrogator will testify for the child (except in special cases where the interrogator determines that the child can testify him or herself). Since this testimony is indirect, additional incriminating evidence will be required to convict. Same as adults. Child victims will be interrogated by the police, and if the case goes to court, will testify in court. Since this is direct testimony, no other evidence will be required for conviction.
Statute of limitations on civil suits	* Civil suits will be subject to a binary standard of statute of limitations, as follows: suits regarding land -- 15 years, and all other suits -- 7 years. Civil suits will be subject to different statutes of limitations for the different possible categories (e.g., breach of contract -- 6 years; accidents -- 3; bodily injury -- 3; rentals -- 6; breach of trust -- indefinite; land -- 12; etc.).

¹ This policy produced 2 separate policy pairs -- 5 hours vs. 7, and 5 hours vs. 3. It thus counts as two policies.

² Policies on these issues vary across municipalities and across schools.

Participants were promised that one respondent in each lecture hall, as determined by a lottery, would win a monetary prize. Prizes (in New Israeli Shekels) were about 2-times-N (rounded up), where N was the number of respondents in the lecture hall. The average prize was about 100 NIS (then about \$25). Students were assigned at random to questionnaires (so students in the same room could be filling out different questionnaires). Each was queried about a single policy issue. The questionnaire rarely took more than 10 minutes to complete.

Results

Knowledge of the status quo. The percentage of respondents who claimed to know what the prevailing policy is ranged between 5% (Arts and Crafts) and 30% (prostitution), with a mean of 19%. This percentage overestimates how many really did know. Most who claimed to know the SQ thought it was the policy just presented as the SQ. In fact, not one respondent spontaneously challenged the SQ information they were given, whether true or false. The percentage of those who claimed to know the SQ and actually did was less than 40%. So overall, less than 10% of the respondents really knew the status quo policy (even this is an overestimate, since some might have just happened to guess correctly). These numbers justify a working assumption that participants were assigned to status quos at random. Be that as it may be, we calculated the results both with and without respondents who claimed knowledge. The results did not differ.

The choice task. Table 7 shows the percent of respondents who preferred policy A to its alternative when A was presented as the prevailing policy, SQ, and when it was presented as the alternative policy, NSQ. We designated as A that policy in a policy pair that was the more popular of the two, when presented as the status quo. Hence, all numbers in Column 3 are necessarily greater than 50%. As the table shows, being the SQ enhanced a policy's popularity (since the percentages in column 3 are greater than the corresponding percentages

in column 4 in 9 cases, and equal in the 10th). This SQLB effect was statistically significant for six of the ten policy pairs.

Table 7

Percentage of respondents who think policy A is better, when it is, or is not, labeled as the SQ

The policy issue	Policy A	% stating that A is better when:		The effect in %. z value
		A is SQ N	A is NSQ N	
Advertising alcohol on TV	With restrictions	92 59	55 56	36 4.74*
Arts and crafts in school	7 hours (vs. 5)	87 30	57 28	30 2.59*
Arts and crafts in school	5 hours (vs. 3)	86 29	66 29	21 1.87
Affirmative action in admissions	Yes	83 42	63 40	21 2.15*
Feeding alley cats	Allowed	81 32	59 29	23 1.94
Prostitution	Allowed with restrictions	71 58	56 57	15 1.62, ns
Rescuing people in peril	Mandatory	70 56	42 64	27 3.13*
Rottweilers as pets	Prohibited	67 29	55 31	11 .92, ns
Testimony of children sex victims	Different from adult	62 55	62 58	0 .03, ns
Statute of limitations on civil suits	2-tier	59 49	56 43	3 .33, ns
Overall		73 498	56 488	19 5.87*

* designates z values significant at the .01 level; all other significant z values are at the .05 level.

With a single exception (mandatory rescue), if policy A was more popular than its alternative B when A was SQ, A was also more popular than B when A was NSQ (i.e., the percents in the penultimate column were greater than 50%). Thus, the effect we observe is a preference shift, rather than a preference reversal. In other words, the SQLB did not necessarily cause a policy labeled as the status quo to seem better than its alternative. But it systematically caused a policy thus labeled to seem better than it did without the label. Although not large enough to have caused a preference reversal, the magnitude of the SQLB is far from negligible, causing a preference shift ranging from a 36% difference to no difference (see the final column in Table 7), with an average of 19% -- also the mid-range.

It is interesting to note that with no exception, the policy designated as A for being the more popular policy also happened to be the real status quo in Israel at the time. Although unintended, it should not be surprising in light of the fact that policies do not become the status quo at random. It indicates that, felicitously, the *de facto* prevailing policies are those our participants would have preferred behind a "veil of ignorance".

The rating task. Table 8 shows the mean ratings of each policy when it was presented as the SQ, and when presented as NSQ. In the rating task, we cannot reduce the data for each policy pair to a single number, as we did for the choice task; whereas the percent choosing a policy always complements the percent given to its alternative, no such constraints apply to the ratings. Therefore Table 8 shows 20, rather than just 10, rows of data.

The penultimate column shows, for each issue, the difference between the two means in the table rows. Thus, in the first row, regarding the issue of advertising alcohol on TV, the rating of Policy A ("with restrictions") was 4.7 when A was the SQ. A's rating was only 3.7 when B ("without restrictions") was the SQ. The difference of 0.9 is the benefit A gained when it was labeled as the SQ. The advantage B gained when it was labeled as the SQ is 3.5

minus 2.1, which is 1.4. For the overall effect of the SQ label we averaged these two effects, $(0.9+1.4)/2 = 1.2$.

Table 8
Mean attractiveness ratings for the 20 policies -- as SQ and as NSQ

Policy issue	Rating Status quo is:	policy A			policy B			SQ label effect for policy		SQ label effect for issues	
		mean	SD	N	mean	SD	N	A	B	F-value	
Advertising alcohol on TV	A - With restrictions	4.7	1.0	58	2.1	0.9	59	0.9	1.4	1.16	41.5
	B - No restrictions	3.7	1.4	58	3.5	1.2	58				
Arts and crafts in school	A - 7 hours	4.0	1.2	29	2.5	1.1	30	-0.0	1.3	0.65	7.02
	B - 5 hours	4.0	1.4	29	3.9	1.0	29				
Arts and crafts in school	A - 5 hours	4.1	1.0	30	2.4	1.3	30	-0.0	1.4	0.67	7.86
	B - 3 hours	4.1	1.0	29	3.8	1.1	28				
Affirmative action in admissions	A - Yes	4.0	0.9	42	2.6	1.3	43	0.3	1.0	0.66	11.2
	B - No	3.7	1.2	43	3.6	1.0	44				
Feeding alley cats	A - Allowed	4.3	1.3	32	2.6	1.3	32	0.9	0.8	0.83	8.85
	B - Prohibited	3.5	1.6	29	3.4	1.5	29				
Legalizing prostitution	A - With restrictions	3.5	1.2	60	2.9	1.5	60	-0.1	0.2	0.09	ns
	B - Prohibited	3.5	1.6	59	3.4	1.5	59				
Rescuing people in peril	A - Mandatory	4.1	1.3	56	3.3	1.6	57	0.8	0.6	0.71	9.84
	B - Not mandatory	3.3	1.4	66	3.9	1.2	66				
Rottweilers as pets	A - Prohibited	3.7	1.5	29	3.1	1.2	29	-0.2	-0.1	-0.13	ns
	B - Allowed	3.8	1.5	32	3.0	1.3	31				
Testimony of child victims	A - Different	3.9	0.9	60	3.2	1.2	59	0.0	0.4	0.18	ns
	B - Same as adult	3.9	1.3	60	3.4	0.9	60				
Statute of limitations, civil suits	A - 2-tier periods	3.7	1.1	50	3.3	1.3	51	-0.2	0.1	0.00	ns
	B - Many different periods	3.8	1.1	44	3.4	1.2	45				
Overall	A	4.0		446	2.8		450	0.3	0.7	0.50	40.1*
	B	3.7		449	3.5		449				

* All significant results are significant at .01 at least.

A status quo label bias requires the numbers in the rightmost column to be positive. In almost all cases they are, and in 6 cases the effect was also statistically significant. So too it was across all 10 ($p < 0.0001$). The bias's overall effect size according to Cohen's index (Cohen, 1988) is 0.37, a small effect.

The results for the rating task are strikingly similar to those for the comparison task. The same six policy issues exhibited a significant SQLB in both. Pearson's correlation between the SQLB in the comparison measure and in the ratings measure (Tables 7 and 8, final columns) is 0.86, bolstering the suggestion that these two measures are tapping the same effect.

Listing pros and cons. Not all of the participants who rated a policy bothered to list its pros and cons, and only not all of those who listed pros and cons bothered to give them weights, for a total of 560 participants for this section. The results are shown in Table 9. Across all 10 policy issues and all 20 policy alternatives, more cons were listed than pros (row 1), cons were rated higher on importance than pros (row 2 within respondent; and across respondents, row 4), and the overall contribution of cons was larger than of pros (row 3).

Unlike in Study 1, here the fact that "cons loom larger than pros" (in terms of numbers listed and weights assigned) is not tantamount to saying that losses loom larger than gains. To be sure, both pros and gains are "good" and both cons and losses are "bad", yet pros are not gains and cons are not losses. Pros and cons are attributes of a state, whereas losses and gains are attributes of changes of state. When contemplating a change of the status quo, giving up the pros of SQ is a potential loss (they will be lost in the exchange – "such a waste"), but acquiring the pros of NSQ is a potential gain ("welcome"). Similarly, giving up the cons of SQ is a potential gain ("good riddance"), whereas acquiring the cons of NSQ is a potential loss ("spare me!"). Thus, when mapping pros and cons unto losses and gains in

comparing the status quo to an alternative, losses are the union set of the pros of SQ and the cons of NSQ, whereas gains are the cons of SQ and the pros of NSQ.

Table 9
Do pros loom larger than cons, and losses larger than gains?

	Pros		Cons		t-test *			C>P?
	Mean	SD	Mean	SD	t	df	p	
Number (within S)	1.52	1.01	1.63	0.97	2.33	744	0.02	Yes
Weight (within S)	3.08	0.75	3.16	0.71	2.04	514	0.04	Yes
Contribution (within S)	5.02	3.41	5.59	3.26	3.15	552	0.002	Yes
Weight (across Ss)	3.13	0.87	3.20	0.81	2.08	2001	0.04	Yes
	Losses		Gains		t-test *			L>G?
	Mean	SD	Mean	SD	t	df	p	
Number (within S)	1.57	0.96	1.59	1.02	-0.28	744	0 ns	No
Weight (within S)	3.18	0.73	3.05	0.73	2.77	514	0.006	Yes
Contribution (within S)	5.43	3.21	5.17	3.49	1.65	552	0.10, ns	Yes
Weight (across Ss)	3.21	0.83	3.12	0.85	2.33	2001	0.02	Yes

Although in Study 2 respondents did not list more losses than gains (Table 9, row 1), listed losses were rated more important than listed gains (row 2, within; row 4, across), and the overall contribution of the losses was larger than of the gains (row 3).

An interesting concrete example is afforded by the Arts and Crafts policy issue, where one group compared 5 hours a week of arts and crafts to 7 hours a week, while another group compared it with 3 hours a week. So for the first group, 5 hours is down from 7, and for the second, it is up from 3. Thus, the arguments that arts and crafts broaden a pupil's horizons, but do so at the expense of more important academic subjects, are a gain and a loss, respectively, when considering more hours, and are a loss and gain, respectively, when considering fewer hours. Table 10 shows the weights given to the selfsame pros and cons

when they were gains versus losses. Arguments are listed in order of their popularity. Again, losses loom larger than gains.

Table 10
Weights of arguments for and against 5 weekly school hours of arts & crafts (A & C)

Argument	SQ = 3 hours a week Discuss 5	SQ = 7 hours a week Discuss 5
A & C broaden horizons	pro (gain) 3.5	con (loss) 3.5
A & C take time from academics	con (loss) 3.4	pro (gain) 2.5
A & C are fun and promote class cohesion	pro (gain) 2.6	con (loss) 3.1
A & C hours are totally useless	con (loss) 2.8	pro (gain) 2.5

Is the SQLB predictable from loss aversion? We converted pros and cons into losses and gains according to the algebra exemplified in Table 5, and then calculated their net balance. This net value (representing, in fact, loss aversion) was then correlated with the magnitude of the SQLB. The SQLB was measured in two ways: by its effect on popularity, summarized in the final column of Table 7, and by its effect on attractiveness, summarized in the final column of Table 8. The correlation between the magnitude of the loss aversion and the magnitude of the SQLB was 0.59 and 0.72, respectively. So loss aversion accounts for 35%-50% of the variance in the SQLB.

Discussion

Study 2 repeats the results of Study 1. Here, however, respondents' ignorance regarding the true state of affairs, and the random assignation this enabled, suggest that nothing but the label could possibly be producing the effect we observed. Discussions with colleagues raised another possibility. Perhaps, said those colleagues, precisely because the

the prevailing policy, 12 chose the alternative policy, 6 expressed bewilderment at the task. The prevailing policy was rated 3.4 on average, and the alternative policy was rated 3.6, on average.

These data rule out the deference-to-authority hypothesis: telling respondents that a change in the SQ has been suggested, even with no hint of who and why made the suggestion, is enough to override any presumption that the SQ is good, if indeed there was one. But why did the results differ in the abstract template case -- where the NSQ was regarded as better -- and in the concrete cases? Recall that the SQLB depends on the balance of losses and gains when comparing SQ to NQS. This simply cannot be done in the absence of an actual policy. All that remains when the policies are contentless is the conversational implicature of the template (Grice, 1975) – which suggests that NSQ is better than SQ. So the SQLB we found, rather than being a possible consequence of a presumption in favor of SQ, had to overcome a presumption in favor of NSQ.

General Discussion

The work here presented carries old news and new news. The old news is that people prefer the status quo to alternatives. The new news is that ... people prefer the status quo to alternatives. "Prefer" in the old news is defined in terms of opting to stay with, rather than to switch from, the status quo policy. "Prefer" in the new news is defined in terms of liking a policy better when it is a status quo policy than when it is an alternative policy -- which could, but not necessarily, lead to liking the status quo policy better than its alternative. The difference between the two is important, yet subtle enough to have been elusive. It is gratifying to have found a status quo effect on valuation – which we called the SQLB – because it is consistent with what everybody believed all along. But what people believed has

not hitherto been experimentally demonstrated, and what has been demonstrated experimentally is a status quo effect in decision, not the SQLB.

In economic theory, the concept of *revealed preference* relies on a belief that observed choice allows the inference of unobserved valuation. It is reasonable for economists to infer that if people exhibit a preference for staying at the status quo over changing it, then modulo transaction costs, they must prefer the status quo itself to the alternative. Psychologists who study the status quo bias, however, are intimately acquainted with the many ways in which people are irrational -- namely, inconsistent; and in particular with elicitation dependence -- namely, with how different preferences are constructed, rather than revealed, by different choice elicitation methods (e.g., Gregory, Lichtenstein & Slovic, 1993).

Still, inferring valuation from choice is not uncommon in psychological research. For example, Langer (1975) noted that people were more reluctant to sell back lottery tickets they had chosen than lottery tickets they had been given. She inferred from this that they have an illusion of control, as if one can choose superior lottery tickets, as one can choose superior tomatoes in the supermarket. Yet, Bar-Hillel and Neter (1996) showed that, the illusion of control notwithstanding, people are reluctant to part with "their" lottery tickets even when they are perfectly aware that these tickets have a probability no higher than any other ticket.

Studies of the notorious Monty Hall problem (see, e.g. Kraus & Wang, 2003) have also been curiously plagued by this problem. People err in calculating the probability of winning if they switch doors versus stick with their original choice. They also decline to switch doors and prefer to stick. But the latter does not derive solely from the former, and certainly people's probabilities cannot be inferred from their decision. It is thus both odd and unjustified that so many researchers who have tried to overcome the Monty Hall error in various ways measured the success of their efforts by looking at exchange rates, rather than by asking directly for the probabilities.

The status quo bias in decision making is multiply determined: First, reference dependence combined with loss aversion causes a perceptual distortion in the valuation of compared policies that favors the status quo. Second, even when an alternative policy is attractive enough to overcome this distortion, changing to it requires overcoming all the sources of resistance to change, to action, to decision. Biases in the valuation of the status quo should be studied using valuation rather than decision, as done here. Biases in decision that favor the status quo should be studied with options that rule out the possibility that the decision bias is derivative from a valuation bias. These studies are yet to be done.

References

- Anderson, C. J. (2003). The psychology of doing nothing: Forms of decision avoidance result from reason and emotion. *Psychological Bulletin*, 129, 139-166.
- Bar-Hillel, M. & Neter, E. (1996) Why are people reluctant to exchange lottery tickets? *Journal of Personality and Social Psychology*, 70, 17-27.
- Baron, J. & Ritov, I. (1994). Reference points and omission bias. *Organizational Behavior And Human Decision Processes*, 59, 475-498.
- Beattie, J., Baron, J., Hershey, J. C., & Spranca, M. (1994). Determinants of decision seeking and decision aversion. *Journal of Behavioral Decision Making*, 7, 129-144.
- Beggan, J.K. (1992). On the social nature of nonsocial perception: The mere ownership effect. *Journal of Personality and Social Psychology*, 62, 229-237.
- Coch, L. & French, Jr., J.R.P. (1948) Overcoming resistance to change. *Human Relations*, 1(4), 512-532.
- Cohen, J. (1988) *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Feynman, R.P. (1985) "*Surely you're joking, Mr. Feynman!*": *Adventures of a curious character*. New York: W.W. Norton & company.
- Gregory, R., Lichtenstein, S. & Slovic, P. (1993) Valuing environmental resources: A constructive approach. *Journal of Risk and Uncertainty*, 7, 177-197.
- Grice, H. P. (1975). Logic and Conversation, in P. Cole and J. Morgan, eds., *Syntax and Semantics*, Vol. 3, Academic Press, 41-58.
- Johnson, E. J. & Goldstein, D. (2003) Do defaults save lives? *Science*, 302, 1338-1339.
- Johnson, E.J., Hershey, J., Meszaros, J. & Kunreuther, H. (1993) Framing, probability distortions, and insurance decisions. *Journal of Risk and Uncertainty*, 7, 35-51.
- Kahneman, D. (1992). Reference points, anchors, norms, and mixed feelings. *Organizational*

Behavior and Human Decision Processes, 51, 296-312.

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decision under risk.

Econometrica, 47, 263-291.

Kahneman, D., Knetsch, J. L. & Thaler, R.H. (1990) Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy*, 98, 1325-1348.

Knetsch, J. L. & J. A. Sinden (1984) Willingness to pay and compensation demanded:

Experimental evidence of an unexpected disparity in measures of value. *Quarterly Journal of Economics*, 99, 507-521.

Kraus, S. & Wang, X. T. (2003) The psychology of the Monty Hall problem: Discovering psychological mechanisms for solving a tenacious brain teaser. *Journal of*

Experimental Psychology: General, 132 (1), 3-22.

Langer, E. J (1975) The illusion of control. *Journal of Personality and Social Psychology*, 32, 17-27.

Ritov, I. & Baron, J. (1992). Status quo and omission bias. *Journal of Risk and Uncertainty*, 5, 49-61.

Samuelson, W. & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7-59.

Schweitzer, M. (1994) Disentangling status quo and omission effects: An experimental effect. *Organizational Behavior and Human Decision Processes*, 58, 457-476.

Strahilevitz, M. & Loewenstein, G. (1998). The effect of ownership history on the valuation of objects. *Journal of Consumer Research*, 25, 276-289.

Schweitzer, M. (1994), "Disentangling Status Quo and Omission Effects: Experimental Analysis" *Organizational Behavior and Human Decision Processes*, 58, 457-476.

Tetlock, P. E. & Boettger, R. (1994) Accountability amplifies the status quo effect when change creates victims. *Journal of Behavioral Decision Making*, 7, 1-23.

- Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior Organization*, 1, 39-60.
- Thaler, R., Kahneman, D. & Knetsch, J. L. (1992). The endowment effect, loss aversion and status quo bias. In R. Thaler *The Winner's Curse*. Princeton University Press. Princeton, New Jersey, 63-78.
- Tversky, A. & Kahneman, D. (1991). Loss aversion in risky and riskless choice: A reference dependent model. *Quarterly Journal of Economics*, 107, 1039-1061.
- Zajonc, R. B. Attitudinal effects of mere exposure. (1968). *Journal of Personality and Social Psychology*, 9, 1-27.