

Consumer Choice Based on Reasons: The Case of Framing Effects

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ABSTRACT: *This paper examines three types of framing effects, namely the attribute framing, the goal framing and the risky choice framing. Those three types of framing effects involve the rewording of descriptions of attributes and have a direct effect and impact on people's choices. Data was collected into two stages from 52 participants. The different framing types were examined by using a within subjects design that provided participants the positive and the negative conditions of each framing task. The results showed that there exists a partial inter-correlation between the three categories of framing effects and that individuals manipulate the perceived gains or losses based on the framing causes of each scenario. The findings contribute refreshing insights into the framing arena, empirically.*

Keywords: *decision framing, framing effects, prospect theory*

INTRODUCTION

The problem addressed in this study is to identify how consumers form their judgements based on the labelling of the information. To date, little research has tried to bring together in a coherent way the findings of the considerable literature on consumer framing effects. Studies in that area have concentrated on examining the effects of framing inside the domain of prospect theory. Prospect theory suggests that people interpret decision tasks in terms of perceived gains and losses (Van Osselaer, 2005; Babutsidze, 2007).

The literature on framing effects is divided into three categories that need better decomposition, e.g. attribute framing, goal framing and risky choice framing (Levin et al., 2002). However until today those three categories of framing have been examined separately and only from the domain of prospect theory in prespecified decision tasks. The main problem seems to be that there is a major gap in our understanding of how those three types of framing effects are interconnected. Thus the objectives of the current study are:

- to apply Levin et al.'s (2002) typology of the three types of framing effects to the unique context of Greece,
- to examine the relationships of those three types of framing.

THEORETICAL BACKGROUND

Most research on framing effects has been guided by behavioural economics, which has constantly challenged the principles of normative economics (Friedman and Savage, 1952). According to Friedman and Savage (1948) normative economics explicitly underpins the domain of rational choice theory. In economics, rational choice theory relates to the principles of utility theory, in which individuals act rationally and seek absolute maximization of their choices (Lichbach, 2003). On the other hand, behavioural economics implicitly underpins the domain of rational choice theory, where individuals act rationally, but without seeking to maximize their preferences and choices. Instead they suggest that consumer choices and preferences are context-dependent (Bettman et al., 1998). This can be seen in the different framing of preferences.

McKenzie and Nelson (2003) state that framing effects involve the rewording of descriptions of attributes and have a direct effect and impact on people's choices and preferences. For example research on measuring the effects of framing has been made in the areas of:

- Aggregation and segregation of paying back a loan from one's current wealth (Kahneman and Tversky, 1984; Tversky and Kahneman, 1981; Thaler, 1985; Frisch, 1993; Beggan, 1994)
- Bargaining and purchase negotiations (Neale and Bazerman, 1985; Neale et al., 1987; Schurr, 1987; Beggan and Manelli, 1994)
- Medical treatments (Levin et al., 1988; Levin and Chapman, 1990, Levin and Chapman, 1993; Maule, 1989)
- Organizational and financial decisions (Qualls and Puto, 1989; Roszkowski and Snelbecker, 1990; Arkes et al., 2008)
- Promotions and advertisements, i.e. for positive/negative experiences of products that exert strong/weak framing effects (Hoch and Ha, 1986; Dunegan, 1996; Grewal et al., 1994)
- Product attributes (Levin et al., 1988; Dholakia and Simonson, 2005; Hu et al., 2006; McDaniels, 1992).

Those framing constructs can be perceived as gains when they are framed positively, and as losses when they are framed negatively (Tversky and Kahneman, 1981, Tversky and Kahneman, 1986; Fagley and Miller, 1997; Reyna and Brainerd, 1991; Bohm and Lind, 1992; Highhouse and Paese, 1996). However, all of these earlier studies varied from each other in the sense that the reasoning of testing the robustness of the framing outcomes was based on the phenomena under investigation (Fagley and Miller, 1997). More recently, Levin et al. (2002), after a thorough investigation of the extant literature regarding the equality of framing constructs, identified three categories of framing effects, namely the risky choice framing, the attribute framing and the goal framing. On their study they found that framing effects for attribute and risky choice were most reliable, and that among those three types there was low interdependency. Thus the focus of the current study is to apply Levin et al.'s (2002) typology of framing effects to the Greek context.

RESEARCH METHOD

A 3 x 2 within-subject experiment was conducted in the context of Greece. Participants were 52 subjects (adult consumers) occupied in the Region of Central Macedonia, located in the city of Thessaloniki. The experiment included two sessions. The first session took place in the beginning of December 2011, and included the positive version of each of the three framing tasks. Whereas the second session took place ten days later and included only the negative conditions. In the attribute framing task participants were supposed to evaluate the content of a grounded beef (i.e. 80 % lean in the positive condition or 20% fat in the negative condition). In the goal framing participant were told to eliminate or reduce the level of cholesterol in their blood so that they will avoid having a heart attack (i.e. in the positive framing). Whereas in the negative condition they were told that if they continue eating red meat then they will fail significantly to reduce the likelihood of a heart attack. In the risky framing condition participants were told to evaluate the prospect of an Asian disease from which 600 people were expected to die. In each condition participants were asked to complete a rating on a 7-point scale. It should be noted that for each of the positive and negative conditions the outcomes are completely equivalent. In addition the first two framing paradigms were taken from Levin et al.'s (2002) typology of framing, and the third condition (i.e. risky choice) were adopted from the work of and Kahneman and Tversky (1984). Analytically, the three framing tasks are presented in Appendix.

Data analysis and results

Table 1 shows the aggregate mean scores, standard deviations and test of significance of each of the scales used for the entire positive and the negative conditions

Table 1. Paired samples t-test

	Positive condition		Negative condition		Differences (Pos.-Neg.) Mean	Test difference= 0		
	Mean	SD	Mean	SD		t statistic	df	Sign. (2-tailed)
Attribute framing								
Fat/lean	5.0	1.13	2.9	1.27	2.1	8.5	51	.000
Greasy/greaseless	5.1	1.11	2.9	1.32	2.2	8.8	51	.000
Low quality/high quality	4.6	1.27	3.4	1.56	1.2	5.4	51	.000
Bad taste/good taste	4.9	1.16	4.0	1.58	0.9	3.6	51	.001
Average attribute score	4.8	1.17	3.3	1.43	1.6	6.6	51	.000
Willingness to spend (€)	3.81	1.70	3.19	1.57	0.6	2.4	51	.027
Goal framing								
Rating score	3.37	1.88	2.81	1.82	0.55	2.0	51	.002
Risky choice framing								
Rating score	3.85	1.84	5.27	1.49	-1.4	-4.0	51	.229

Note: Adopted from Levin et al. (2002).

All the categories of the attribute framing are statistically significant and all the mean values were higher for the positive condition, as opposed to the negative one. For example in the case of the '80% lean' labelling, consumers evaluated only the positive attributes, and conversely, only the negative attributes in the other case of the '20% fat' labelling. These results are consistent with other previous studies (i.e. Levin and Gaeth, 1988, 2002; Kees, 2011). In addition, the subjects indicated their willingness to buy a discounted package of ground beef, when it is framed positively (e.g. mean= 3.81) than when it is framed negatively (mean=3.19).

In the category of goal framing, the majority of the subjects preferred the positive condition (mean=3.37). This indicates their willingness to reduce the level of cholesterol in their blood, in order to significantly decrease the likelihood of the early onset of heart disease. In the category of the risky choice framing the majority of participants selected the negative option (mean= 5.27) that refers to risk seeking behavior. For example in the positive condition of the two alternative programs, i.e. (a) if program A is adopted 200 people will be saved, and (b) if program B is adopted there is

a one-third probability that 600 people will be saved and a two-thirds probability that no people will be saved, the majority of respondents preferred saving 200 hundred lives for sure (53, 8%) over the risky option (42, 3%).

On the other hand, in the negative condition of the two alternative programs, i.e. (a) if program A is adopted 400 people will be die, and (b) if program B is adopted there is a one-third probability that nobody will die and a two-thirds probability that 600 people will die, the majority of respondents preferred the risky option (79%), as opposed to the sure option of losing 400 hundred lives for sure (15, 4%). It is evident that in the positive condition, respondents are risk averse for gains, whereas in the negative one, respondents are risk seeking for losses.

In order to assess the relationship among the three framing categories the researchers utilized the methodology of Pearson's correlation, which is presented in Table 2.

Table 2. Correlation of the 3 framing categories

	Attribute Frame Pos.	Attribute Frame Neg.	Goal Frame Pos.	Goal Frame Neg.	Risky Frame Pos.	Risky Frame Neg.
Attribute Frame Pos.	1.000	0.152	0.056	0.113	0.053	0.192
Attribute Frame Neg.		1.000	-0.02	-0.020	-0.115	-0.133
Goal Frame Pos.			1.000	0.415**	0.394*	-0.126
Goal Frame Neg.				1.000	0.394*	-0.126
Risky Frame Pos.					1.000	-0.170
Risky Frame Neg.						1.000

Note: ** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The correlation coefficients were calculated at the levels of significance of $p < 0.001$ and $p < 0.05$ (Hatcher, 2003; Field, 2005). The characteristics of both positive and negative goal framing are significantly interconnected ($r = 0.415$, $p = 0.01$). In addition those two constructs have a strong impact on the risky choice positive condition ($r = 0.394$, $p = 0.05$). This suggests that consumers always set goals according to the positive outcome of the risky choice option.

CONCLUSION

The study results are consistent with the previous findings of prospect theory, i.e. Kahneman and Tversky (1984), Levin et al. (2002), where it was found that people under-weight or underestimate outcomes that are only probable, as opposed to those that are certain. The results indicate that consumers are risk-averse in choices that involve sure gains, and risk-seeking in choices that involve sure loss.

In addition people (as consumers) tend to focus on positive/negative characteristics of the product, according to positive/negative messages. For example in the attribute framing consumers always prefer the labelling of more favorable information, i.e. when attributes are framed positively, consumers willingness to spend is increased. Therefore marketing managers should promote and advertise the labelling of their products accordingly. In the category of goal framing, the difference of the two framing conditions were statistical significant, as the p-value was close to zero. That results contrast with Levin et al's (2002) previous study, despite the fact that the cover story was exactly identical. This may suggest the appropriateness of the construct effects. It should be noted that it was found a strong correlation between the goal and the risky framing conditions. This indicates that people manipulate goals according to the accompanied perceived risk of the decision involved. Future researchers should expand those three types of framing conditions to other product categories.

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Appendix

Attribute Framing

Participants were told to assume that they were inviting a special friend to dinner and that they were making their favorite lasagna dish with ground beef. In the positive condition participants were told that the beef was "80% lean" and

in the negative condition participants were told that the beef was “20% fat.” In each condition participants were asked to evaluate the beef on the following 7-point bipolar scales: fat–lean, greasy–greaseless, low quality–high quality, and bad tasting–good tasting. After completing the rating scales, subjects were asked, “In addition, if you went to the store to purchase the ground beef, what would you be willing to spend for a one-euro package?” To anchor the scale, subjects were told that recent prices in the local area range from

€1.50 to €2.50.

Source: Adopted from Levin et al. (2002)

Goal Framing

Participants were told to imagine that they were considering eliminating or reducing the amount of red meat in their diet. They were then shown an excerpt from an article describing the effects of eating red meat. In the positive condition participants were told: “If your parent discontinues eating red meat, he or she will be able to reduce the level of cholesterol in their blood. Thus, he or she will significantly decrease the likelihood of the early onset of heart disease.” In the negative condition participants were told: “If your parent continues eating red meat he or she will not be able to reduce the level of cholesterol in their blood. Thus, he or she will fail to significantly decrease the likelihood of the early onset of heart disease.” In each condition participants were asked to rate how likely they are to recommend that their parent eliminate red meat from their diet, and to rate how likely they are to recommend that their parent reduce by at least one-third the amount of red meat in their diet, each on a scale of 1 to 7 labeled “Definitely would NOT recommend” at the low end and “Definitely would recommend” at the high end.

Source: Adopted from Levin et al. (2002)

Risky Choice framing

Participants were told to imagine that the Greek Government is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. In the positive condition participants were told that “If Program A is adopted, 200 people will be saved”. Whereas “If Program B is adopted, there is a one-third probability that 600 people will be saved and a two-thirds probability that no people will be saved”. In the negative condition participants were told that “If Program A is adopted, 400 people will die”. Whereas “If Program B is adopted, there is a one-third probability that nobody will die and a two-thirds probability that 600 people will die”. Which of the two programs would you favor? In each condition participants were asked to complete a rating on a 7-point scale labeled “Definitely would recommend A” at one end and “Definitely would recommend B” at the other end. Responses were scored 1–7, where higher numbers represent greater preference for the risky option.

Source: Adopted from Kahneman and Tversky (1984)