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The Framing of Financial Decisions: A Pilot Study

by Richard M S Wilson

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THE FRAMING OF FINANCIAL DECISIONS: A PILOT STUDY

Abstract

We continually need to make decisions, but it is clear that, in so doing, we do not act in accordance with strict rules of rationality. For example, the effect of framing (i.e. the choice of particular words to present a given set of facts) can influence our choices, which raises some serious questions about our real freedom of choice.

An increasing body of literature on framing supports a tendency for people to take more risks when seeking to avoid losses as opposed to securing gains. This is explained by framing and the value function within Tversky & Kahneman's prospect theory.

An empirical study was undertaken within a Business School to test the hypothesis that framing influenced subjects' choices in four simple financial decisions (A,B,C,D) as indicated in the previous paragraph.

The results, based on a sample of 51 adults, partly supported the hypothesis (cases B and D), but the anticipated outcomes were not found in cases A and C. It is probably a high level of risk aversion, irrespective of framing, on the part of the subjects which explains these unexpected findings since subjects exhibited a clear tendency to favour certainty over risky options.

Introduction

Everyday life is full of dilemmas in which individuals (or groups) are faced with choices which require that decisions be made. Psychological principles governing the perception of dilemmas ‘...produce predictable shifts of preference when the same problem is framed in different ways’ (Tversky & Kahneman, 1981). This raises some serious questions regarding theories of rational decision-making - given that many explanations and predictions of individual choice are based on assumptions of rational behaviour.

Among the criteria by which rationality might be defined are consistency and coherence, but the evidence from research studies on framing shows that these criteria are frequently (and systematically) violated.

In addition to criteria such as consistency and coherence, the notion of rational decision-making is based on various assumptions about the factors which guide behaviour as well as the unit of analysis (e.g. whether it is the individual actor or an organisation).

At a simple level, involving an individual decision-maker faced with the need to make a choice among competing solutions to a problem, the rational approach is for the decision-maker to specify his/her objective function (e.g. maximisation of utility) and then to assess the alternative choices in order to identify the one which best meets the objective.

The traditionally rational approach espoused by economists sees the individual as trying to do the best thing for himself/herself and being aware of all the available options. In other words, the approach reflects a means-ends analysis: so long as the most appropriate means (i.e. choice) are chosen for specified ends (i.e. objective), then the decision is rational. This is, of course, a normative model of how decisions ought to be made (from an economics perspective) rather than an empirically-grounded model of how decisions are actually made. Not only does it deal with a world of certainties, there are also human frailties which render it of limited value.

In their 1981 paper (as in the programme of work behind many of their publications) Tversky & Kahneman sought to contrast real people’s actual behaviour with the norms of rational economic behaviour. However, this was not the first such assault on economic orthodoxy: the late Herbert Simon’s theory of bounded rationality (which was at the heart of his

University of Chicago PhD dissertation almost 60 years ago, and which was the basis for his being awarded a Nobel Prize in 1978) was an earlier attack. Simon (e.g. 1959) observed that, as individuals, we possess limited cognitive capabilities for knowing what is best, or for identifying the full array of alternative choices, or for processing information, hence the notion of economic rationality in decision-making is empirically untenable. (See also Brunsson 1985, Sutherland 1992, and McCrone 1993.)

Reference has already been made *en passant* to the phenomenon of framing (i.e. the particular choice of words used to present a given set of facts). Framing a choice situation in different ways can lead to different patterns of response from subjects. In other words, the way in which the alternatives are framed has a substantial impact on people's judgements. Studies by, *inter alia*, Tversky & Kahneman (1981), McNeil et al. (1982), and Meyerowitz & Chaiken (1987) support this view, and it raises questions which are non-trivial in considering the extent to which our decision-making processes are consistent and transparent. For example, how much insight and awareness do we have regarding our own thinking when engaged in decision-making? Subjects are much more likely to identify factors other than framing to justify their choices, which makes one wonder how much freedom of choice people have if they are susceptible to manipulation via framing. (The public reaction to sustained 'spinning' by the Blair Government suggests, of course, that manipulative approaches to framing of this type will not fool all of the people all of the time!)

Sutherland (1992, Chapter 16) reviewed the framing literature and noted the tendency for people to take more risks to avoid losses than to make gains whilst observing that "...it cannot be rational to make different decisions on the same problem depending on how it is posed" (pp.223-4). He conjectured that, whilst some satisfaction will be obtained by making a certain gain, the additional satisfaction which might accrue by making a larger but uncertain gain may not be sufficient to compensate for the sense of disappointment in making no gain at all if the gamble does not come off.

This raises the likelihood of the actor regretting his/her choice. 'In the case of losses, if [he/she opts] for taking a certain loss, that in itself will cause dismay: hence [the actor] may think it worth risking a larger loss with the compensating chance of avoiding any loss at all and therefore avoiding any dismay' (Sutherland, 1992: 224).

An appropriate decision rule in the light of 'regret' is to seek to minimise the maximum possible regret given that, having made a choice that does not turn out to be the best one, the decision-maker will regret not having chosen another course of action when he/she had the opportunity. (See Wilson, 1974: 262-3.)

Baron & Byrne (1987: 352-3) discuss framing in the context of social bargaining, noting that individuals tend to focus either on potential losses or on potential gains, and this exerts powerful effects on the strategies they adopt in social exchange, and on the outcomes they achieve. For example, when the focus is primarily on losses which might be experienced (i.e. a negative frame is adopted), bargainers are prone to digging in their heels and resisting making any concessions. On the other hand, when the focus is primarily on gains which might be achieved (i.e. a positive frame is adopted), bargainers demonstrate greater flexibility and are likely to be more successful in securing agreement.

In the light of studies by Bazerman and his colleagues (e.g. Neale & Bazerman, 1985), there appears to be strong support for the benefits of positive framing. Subjects who adopt this perspective are likely to make larger concessions, resolve more difficulties, and achieve more favourable settlements than those adopting a negative frame. Indeed, the frame which is adopted can be more important in achieving a negotiated settlement than the more objective factors (such as costs and benefits) involved.

Another context in which framing is conspicuous is that of entrapment. (See Wilson & Zhang, 1997.) This occurs when a responsible individual increases his/her commitment to an ineffective course of action in order to justify the previous allocation of resources to that task.

Whilst entrapment is not easily explained in terms of economic rationality, there are various plausible explanations reflecting psychological rationality. For example (see Wilson & Gilligan, 1997: 728-730):

- there is a need for the decision-maker to assert himself/herself and reaffirm the wisdom of his/her initial decision;
- the initial commitment was made as a result of the decision-maker's belief in the goodness of the course of action, hence self-justification, justification to others, and the norms of consistency are served by continuing;

- continuing avoids the waste of the investment already made (which is known as the sunk cost fallacy);
- further investment gives further opportunities for things to come good;
- negative feedback is treated as a learning experience (i.e. a cue to revise the inputs rather than cancel the project);
- negative feedback, alternatively, maybe seen as a chance variation;
- a state of inertia has been created by which a project's financial past cannot be divorced from its future - prior investment then motivates the decision to continue;
- decisions are not made in a social vacuum, hence social costs and benefits much be considered relating to self-image, organisational image, reputation and face-saving - continue so long as the social and psychological benefits are greater than the economic costs;
- information processing has behavioural underpinnings, such as selective perception;
- an organisation's reward system may work to encourage the decision-maker to overlook short-term setbacks and continue with the project through bad times.

Prospect theory (Kahneman & Tversky, 1984) has been used to explain the phenomenon of entrapment, and it helps in showing why people typically undervalue potential gains and overvalue potential losses. Figure 1 portrays a value function which shows the relationship between objectively-defined gains and losses, and the subjective value placed on these by the decision-maker.

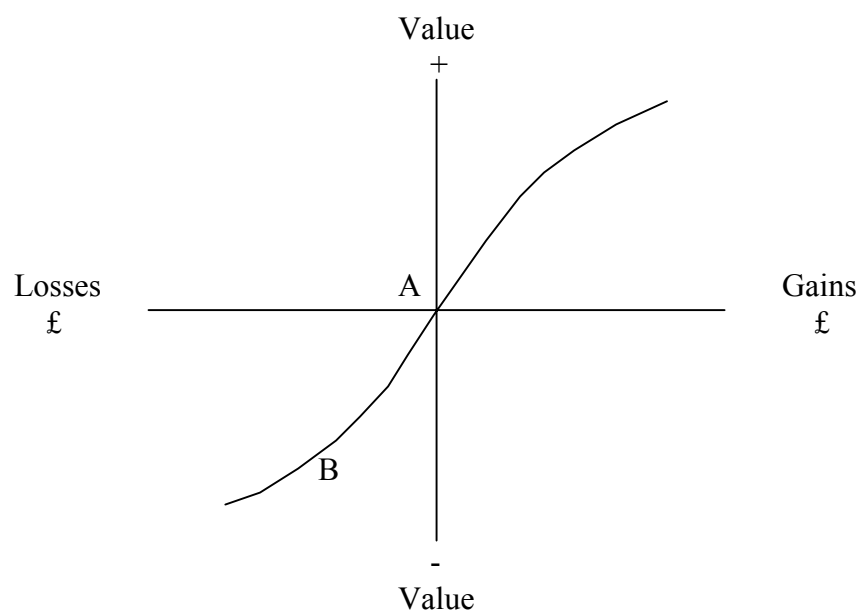


Figure 1 : The Value Function

At the outset the decision-maker is at point A, but if the decision has an unsuccessful outcome he/she will move to point B where further losses do not result in large decreases in value. On the other hand, any gains will result in large increases in value, thus, at point B, the decision-maker will risk further losses in the hope of making gains. Despite the sunk costs, risky behaviour is much more likely at point B than it was at point A.

Based on the above discussion, the primary focus of this paper is on the preference for avoiding losses as opposed to securing gains, and the way in which different ways of framing what is essentially the same situations might result in preference reversals.

Four dilemmas were used, each dealing with a different financial decision. The same hypothesis was applicable to each dilemma (or situation requiring a decision). In its null form this was:

H₀ The population distribution of choices in Situation X is independent of the framing of the dilemma.

The alternative form was:

H₁ The population distribution of choices in Situation X is not independent of the framing of the dilemma.

All four dilemmas were framed in two different ways to provide a positive and negative framing for each: the wording can be seen in Appendix 1 (relating to Version 1 of the instrument employed) and in Appendix 2 (relating to Version 2 of the instrument employed).

The four dilemmas were:

- Situation A which is essentially the same as Dilemma 4 from Tversky & Kahneman (1981) to facilitate some cautious comparison with that study.
- Situation B which is based on an example from Thaler (1980).
- Situation C } which were specially devised for this study.
- Situation D }

In summary:

Situation A

Version 1 Positive
Version 2 Negative

but essentially the same outcomes apply to each choice within V1 and V2.

Situation B

Version 1 Negative
Version 2 Positive

but essentially the same alternatives were presented in V1 and V2.

Situation C

Version 1 Negative
Version 2 Positive

but essentially the same scenario was behind both V1 and V2.

Situation D

Version 1 Positive
Version 2 Negative

but essentially the same risk profile was presented in both V1 and V2.

In each case the hypothesis was subject to a one-tailed test (using χ^2) since it was anticipated that subjects would exhibit a greater concern to avoid potential losses than to secure potential gains. Woodside & Stringer (1994) have suggested that the effects of framing may be overridden by social interactions, but all four dilemmas used in this study deliberately excluded any social interactions, hence subjects might be expected to rely on some inherent sense of rationality in arriving at their choices.

Method

(a) Subjects

The subjects were the researcher's colleagues (i.e. the entire population covering academic staff, support staff and full-time research students) in the Business School in which he is employed. Details are given below by gender and category for the population, and with the addition of ages for those who responded. (Ages are not known for the population - at least not by the researcher.)

POPULATION

Category	Male	Female	Total
Academic staff	46	15	61
Support staff	8	37	45
Research students	23	11	34
TOTAL	77	63	140

RESPONDENTS (NUMBERS AND RATES)*

Category	Male		Female		Total	
Academic staff	21	46%	5	33%	26	43%
Support staff	2	25%	13	35%	15	33%
Research students	8	35%	2	18%	10	29%
TOTAL	31	40%	20	32%	51	36%

*Response rates were reported in the previous section - after eliminating four instruments (one V1, three V2) which had missing data.

MEAN AGES OF RESPONDENTS (YEARS)

Category	Male	Female	Total
Academic staff	47.6	45.2	47.1
Support staff	46.0	42.3	42.8
Research students	30.0	32.0	30.5
TOTAL	43.0	42.0	42.6

Chi-square tests show that differences in response rates are random variations:

• Categories	$\chi^2 = 1.920$	2df	p = 0.383
• Gender	$\chi^2 = 1.085$	1df	p = 0.298

Details relating to each version of the questionnaire (V1 and V2) are given below:

VERSION 1

	Male	Female	Total
Academic staff	12	2	14
Support staff	1	5	6
Research students	3	1	4
TOTAL RESPONDENTS	16	8	24

Mean Ages (Years)

	Male	Female	Total
Academic staff	49.2	46.5	48.8
Support staff	71	45	49.3
Research students	34	33	33.8
TOTAL (Years)	47.7	43.9	46.4

VERSION 2

	Male	Female	Total
Academic staff	9	3	12
Support staff	1	8	9
Research students	5	1	6
TOTAL RESPONDENTS	15	12	27

Mean Ages (Years)

	Male	Female	Total
Academic staff	45.4	44.3	45.2
Support staff	21	40.6	38.4
Research students	27.8	31	28.3
TOTAL (Years)	37.9	40.8	39.2

The characteristics of respondents are similar for both V1 and V2: there is no reason to think that the responses are influenced by differences in the characteristics of respondents.

(b) Materials

Both versions of the instrument used, including the covering letters, are shown as Appendix 1 (V1) and Appendix 2 (V2).

The origin of the dilemmas and the logic behind their inclusion have already been discussed.

(c) Procedures

The instruments, along with covering letters, were distributed to all subjects in the population via their mail trays. A coin was tossed to see whether the first subject (in alphabetic sequence) should be given V1 or V2, and every alternate subject received the same version, with other subjects receiving the alternative version.

Subjects were requested to return their completed forms by a specified date which allowed ten days for their completion in circumstances which were unsupervised and not subject to any arbitrary time limits.

By distributing the instruments to all, and due to the anonymity of the process, there was no pressure on anyone to participate, nor were there any attempts made to chase up subjects who had not responded by the specified date since it was not known who had and who had not responded. The entire process was voluntary.

Results

Whilst Takemura (1992, 1993) has shown that the effects of framing are likely to be lower when subjects are warned in advance that they will be required to justify their choices, and when more time is allowed for arriving at their choices, there was no requirement in this project for subjects to state any justification for their choices, and (as noted earlier) there was no control over the time taken in reaching choices.

The summarised data is given below:

VERSION 1

(N = 24)

<u>SITUATION A</u>	
<u>X</u>	<u>Y</u>
22	2

<u>SITUATION B</u>	
<u>E</u>	<u>F</u>
24	-

<u>SITUATION C</u>	
<u>Y</u>	<u>N</u>
6	18

<u>SITUATION D</u>	
<u>Y</u>	<u>N</u>
10	14

VERSION 2

(N = 27)

<u>SITUATION A</u>	
<u>X</u>	<u>Y</u>
20	7

<u>SITUATION B</u>	
<u>E</u>	<u>F</u>
3	24

<u>SITUATION C</u>	
<u>Y</u>	<u>N</u>
8	19

<u>SITUATION D</u>	
<u>Y</u>	<u>N</u>
1	26

Chi-squared results for each situation are given below:

Situation A

$$\chi^2 = 2.71$$

$$CV_{0.05} = 3.84$$

$$CV_{0.01} = 6.64$$

$$2.71 < 3.84 < 6.64$$

∴ Unable to reject H_0

Situation B

$$\chi^2 = 40.27$$

$$CV_{0.05} = 3.84$$

$$CV_{0.01} = 6.64$$

$$3.84 < 6.64 < 40.27$$

∴ Reject H_0 at .005 level

Situation C

$$\chi^2 = 0.14$$

$$CV_{0.05} = 3.84$$

$$CV_{0.01} = 6.64$$

$$0.14 < 3.84 < 6.64$$

∴ Unable to reject H_0

Situation D

$$\chi^2 = 10.81$$

$$CV_{0.05} = 3.84$$

$$CV_{0.01} = 6.64$$

$$3.84 < 6.64 < 10.81$$

∴ Reject H_0 at .005 level

The conditions that need to be fulfilled when using χ^2 are:

- (i) the data must be categorical;
- (ii) the data must be based on counts;
- (iii) sample data must be presented in a contingency table;
- (iv) one-tailed tests can be carried out only in 2 x 2 contingency tables;
- (v) expected values below five should be treated with caution.

All these conditions were met with the exception of (v) in the case of Situation A where there were two expected values slightly below five, hence the results for Situation A need to be interpreted with caution.

Discussion

Choices involving prospective gains are often risk averse whilst choices involving prospective losses are often risk accepting, even when the dilemmas are essentially identical apart from their framing.

Inconsistent responses were found by Tversky & Kahneman (1981) who explained this phenomenon in terms of the conjunction of a framing effect with contradictory attitudes towards risks involving gains and losses - as portrayed in their prospect theory (outlined earlier). At the heart of this theory is the proposition that the displeasure associated with losing a sum of money is generally greater than the pleasure associated with winning the same amount. This is captured by the value function (see Figure 1) in which the curve above the origin is convex whereas below the origin it is concave.

With regard to Situation A, the results show (as did those of Tversky & Kahneman - see below) that the majority choice in V1 reflects risk aversion (i.e. a riskless prospect is preferred to a risky prospect of equal or greater expected value).

In contrast, Tversky & Kahneman found that the majority of their V2 subjects chose a risky option, thereby supporting the preference reversal argument that a risky loss prospect is preferable to a riskless prospect of equal expected value.

Situation A: Comparison of Results

		T & K (1981)	Wilson (2001)
V1	X	84%	92%
	Y	16%	8%
V2	X	13%	74%
	Y	87%	26%
		N = 150+	N = 51

However, the results from the V2 subjects in the present study show a very similar pattern to the V1 results, and there is no statistically significant difference which suggests that the choices were independent of the framing of the dilemma. But these results - despite being the opposite of that which was expected - do conform with the pseudo certainty effect by which subjects prefer options framed in terms of certainty.

Tversky & Kahneman's subjects were students at one US University and one Canadian University who answered brief questionnaires in a classroom setting. The sample size was greater than that in the present study, the subjects differed, the context in which the questionnaire was completed was different, other cultural characteristics were different, and there was a time gap of 20 years, so these factors may account for some aspects of the findings. It is also necessary to repeat the earlier note of caution over some small expected values.

Turning to Situation B, it is relevant that Thaler (1980) gave an example (in a riskless context such as that of Situation B) of the value function effect based on the shape of the curve: it is steeper for losses than for gains, hence any difference between two options will loom larger when it is framed as a disadvantage of one option rather than as an advantage of the other. The labelling of the £3 difference as a cash discount rather than as a credit card surcharge highlights the different reference points, and consumers are less willing to accept a surcharge than to forego a discount.

The results show that (in V1) no subjects accepted the surcharge whereas (in V2) three subjects decided to forego the discount, so the anticipated results were reported - at a significance level of 0.005. There was a conspicuous preference in V1 and V2 for accepting the gain and avoiding the loss respectively.

For Situation C it was anticipated that subjects would strongly favour the 'Yes' box in V1 and the 'No' box in V2. However, the results from V1 and V2 subjects showed a very similar distribution and the differences were not statistically significant. Whichever way this dilemma was framed the subjects exhibited a relatively strong degree of risk aversion. One plausible explanation could be that the subjects were generally disinclined to invest in risky projects as a result of their strong risk aversion since, in either framing, there is a 70% likelihood of the guaranteed return being greater than the cost of borrowing. Where one course of action (i.e. choosing to borrow funds at an initial interest rate of 8% in order to invest in a project promising a return of 9% over five years (has an outcome which is uncertain, but the alternative course of action (i.e. not borrowing funds) has a certain outcome, the subjects in both V1 and V2 prioritised certainty irrespective of framing.

The expectation regarding Situation D was that there would be a preference reversal between V1 (favouring the 'Yes' option) and V2 (favouring the 'No' option). Whilst the results are statistically significant at the 0.005 level, the pattern shows a majority of 'No' answers for both V1 and V2. A plausible explanation for this is hard to propose - other than the very large proportion of V2 subjects favouring 'No' (as anticipated) impacting on the calculation of χ^2 , although both V1 and V2 subjects favour risk aversion. Nevertheless, the impact of framing has clearly made a difference. Subjects have generally opted for the certain option (i.e. do not invest) in both V1 and V2, but some overcame their risk aversion as evidenced by the framing effect.

Conclusion

In conclusion, whilst it is acknowledged that there is an element of artificiality involved when subjects are presented with contrived dilemmas requiring them to choose what they consider to be the best option, the role of language in the social construction of reality (including our experience of specific decision-making dilemmas) is important in the context of framing. Forms of wording can be chosen to encourage subjects to perceive decision dilemmas in particular ways.

As with the finding of Tversky & Kahneman (1981), evidence has been presented to show (at least for Situations B and D) that seemingly inconsequential changes in the framing of

dilemmas can generate significant shifts in preferences. This is due both to framing and to the shape of the value function (favouring the avoidance of losses over the securing of gains).

A strong tendency to risk aversion in Situations A and C probably explains the unexpected results for these particular dilemmas.

Acknowledgement

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Bibliography

Baron, R.A. & D. Byrne, (1987): *Social Psychology*, Boston: Allyn & Bacon, 5th edition.

Brockner, J., et al. (1986): "Escalation of Commitment to an Ineffective Course of Action", *Administrative Science Quarterly*, Vol.31, No.1, March, pp.109-26.

Brunsson, N. (1985): *The Irrational Organization*, Chichester: Wiley.

Kahneman, D. & A. Tversky (1984): "Choices, Values and Frames", *American Psychologist*, Vol.39, pp.341-350.

McCrone, J. (1993): *The Myth of Irrationality*, London: Macmillan.

McNeill, B.J., et al. (1982): "On the Elicitation of Preferences for Alternative Therapies", *New England Journal of Medicine*, Vol.356, pp.1259-1262.

Meyerowitz, B.E., & S. Chaiken (1987): *Journal of Personality and Social Psychology*, Vol.52, pp.500-510.

Neale, M.A., & M.H. Bazerman (1985): "The effects of framing and negotiator over confidence on bargaining behaviors and outcomes", *Academy of Management Journal*, Vol.28, pp.34-49.

McGrew, A.G. & M.J. Wilson (eds.) (1982): *Decision Making*, Manchester U.P./O.U.

Simon, H.A. (1959): "Theories of decision-making in economics and the behavioral sciences", *American Economic Review*, Vol.49, pp.253-283.

Simon, H.A. (1996): *Models of My Life*, Cambridge, MA: MIT Press.

Takemura, K. (1992): "Effect of decision time on framing of decision: a case of risky choice behavior", *Psychologica*, Vol.5, pp.180-185.

Takemura, K. (1993): "The effect of decision frame and decision justification on risky choice", *Japanese Psychology Research*, Vol.35, pp.36-40.

Thaler, B. (1980): *Journal of Economic Behavioral Organisation*, Vol.1, p.39.

Tversky, A., & D. Kahneman (1981): "The framing of decisions and the psychology of choice", *Science*, Vol.211, pp.243-248.

Wilson, R.M.S. (1974): *Financial Control: A Systems Approach*, London: McGraw-Hill.

Wilson, R.M.S. & C. Gilligan (1997): *Strategic Marketing Management*, Oxford: Butterworth-Heinemann (2nd edition).

Wilson, R.M.S. & Q. Zhang, (1997), Entrapment and Escalating Commitment in Investment Decision-Making: A Review, *British Accounting Review*, 29, pp.277-305.

Woodside, A., & A.E. Singer (1994): "Social interaction effects in the framing of buying decisions", *Psychology and Marketing*, Vol.11, pp.27-34.

APPENDIX 1

A PILOT STUDY ON FINANCIAL DECISIONS

PLEASE HELP!!

Your help would be greatly appreciated in this pilot study relating to the framing of financial decisions. It will only take about five minutes of your time.

Please accept at face value the outlined circumstances in each of the four choice situations described in this questionnaire. Do not query the assumptions underlying each situation!

You are invited to choose one preferred option from each of the four pairs of options given below. Do not spend more than a minute or so in making each choice. It is your initial preference which is of particular interest in each case.

There are no right or wrong answers: the thing that matters is your preference in each of the four situations A to D. Please indicate your choices by ticking the appropriate box in each of the specified pairs of options.

Your answers will be both anonymous and confidential. The details provided will be aggregated for purposes of analysis in ways which will ensure that no individual's identity will be revealed.

Would you kindly respond (via my mail tray) by 23 June? There will be no reminders!

Thank you in anticipation of your help.

Professor Richard M S Wilson

SITUATION A

Which of the following two alternatives would you prefer?

Option X: A certain gain of £250.

Option Y: A 25% chance of gaining £1,000 (with a 75% chance of gaining nothing).

Please tick one box to indicate your choice: X or Y

SITUATION B

You have just filled your car with petrol at a service station. You go over to the cashier's kiosk to pay and are given the following alternatives:

Option E: Paying £30 in cash.

Option F: Being surcharged by 10% if you pay by credit card.

Please tick one box to indicate your choice: E or F

SITUATION C

Would you borrow funds from a bank at an annual interest rate of 8% to invest in a project which promises a guaranteed return of 9% p.a. over five years if there is a 30% chance that the cost of borrowing will rise to 10% p.a. at some point over the project's life?

Please tick one box to indicate your choice: Yes or No

SITUATION D

Imagine that you have a windfall of £1,000 to invest and that you are considering investing in a particular company's shares - but only for 12 months.

Your financial advisor offers you the following forecast:

* There is a 40% likelihood that the share price of the company in which you are interested will rise over the next year along with a 20% likelihood that it will stay the same.

Would you invest in the company's shares?

Please tick one box to indicate your choice: Yes or No

V1

To facilitate analysis please provide the following details.

GENDER (tick one box):

Female

Male

AGE (please state age at last birthday)

ROLE (tick one box)

Academic staff

Support staff

Research student

THANK YOU VERY MUCH FOR YOUR HELP

V1

APPENDIX 2

A PILOT STUDY ON FINANCIAL DECISIONS

PLEASE HELP!!

Your help would be greatly appreciated in this pilot study relating to the framing of financial decisions. It will only take about five minutes of your time.

Please accept at face value the outlined circumstances in each of the four choice situations described in this questionnaire. Do not query the assumptions underlying each situation!

You are invited to choose one preferred option from each of the four pairs of options given below. Do not spend more than a minute or so in making each choice. It is your initial preference which is of particular interest in each case.

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Your answers will be both anonymous and confidential. The details provided will be aggregated for purposes of analysis in ways which will ensure that no individual's identity will be revealed.

Would you kindly respond (via my mail tray) by 23 June? There will be no reminders!

Thank you in anticipation of your help.

Professor Richard M S Wilson

SITUATION A

Which of the following two alternatives would you prefer?

Option X: A certain loss of £250.

Option Y: A 75% chance of losing £1,000 (with a 25% chance of losing nothing).

Please tick one box to indicate your choice: X or Y

SITUATION B

You have just filled your car with petrol at a service station. You go over to the cashier's kiosk to pay and are given the following alternatives:

Option E: Paying £33 by credit card.

Option F: Receiving a discount of £3 if you pay by cash.

Please tick one box to indicate your choice: E or F

SITUATION C

Would you borrow funds from a bank at an annual interest rate of 8% to invest in a project which promises a guaranteed return of 9% p.a. over five years if there is a 70% likelihood that the cost of borrowing will not rise over the life of the project?

Please tick one box to indicate your choice: Yes or No

SITUATION D

Imagine that you have a windfall of £1,000 to invest and that you are considering investing in a particular company's shares - but only for 12 months.

Your financial advisor offers you the following forecast:

* There is a 40% chance that the share price of the company in which you are interested will fall over the next year and a 20% chance that it will remain unchanged.

Would you invest in the company's shares?

Please tick one box to indicate your choice: Yes or No

To facilitate analysis please provide the following details.

GENDER (tick one box):

Female

Male

AGE (please state age at last birthday)

ROLE (tick one box)

Academic staff

Support staff

Research student

THANK YOU VERY MUCH FOR YOUR HELP

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