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Jakobsson, Cecilia; Selart, Marcus; Karlsson, Niklas; Gärling, Tommy

Preprint / Preprint Arbeitspapier / working paper

Empfohlene Zitierung / Suggested Citation:

Jakobsson, C., Selart, M., Karlsson, N., & Gärling, T. (1999). Social decision heuristics used by families in allocating resources. (Göteborg Psychological Reports, 3). Gothenburg. <u>https://nbn-resolving.org/urn:nbn:de:0168-ssoar-93707-2</u>

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Social-Decision Heuristics Used by Families in Allocating Resources

Cecilia Jakobsson, Marcus Selart, Niklas Karlsson, and Tommy Gärling Department of Psychology Göteborg University, Sweden

Jakobsson, C., Selart, M., Karlsson, N., & Gärling T. Social-decision heuristics used by families in allocating resources. Göteborg Psychological Report, 1999, 29, No. 3. The hypothesis is proposed that due to shallow information processing families frequently use an equal-division socialdecision heuristic in allocating resources. In Study 1 a survey was conducted of a nationwide sample (n=446) and a smaller student sample (n=50)consisting of married or cohabiting participants. In line with our prediction, it was found that allocating part of a monthly income to joint or individual savings followed an equal-division rule. However, choices to maximize joint savings were almost equally frequent. Since the prevalence of a joint family economy correlated with these choices, participants probably applied a social-decision heuristic of subscribing to a status-quo rule. In Study 2 a sample of 100 students made fictitious choices of allocating part of a monthly income to joint or individual savings after either an income increase or decrease. Consistent with the results of Study 1, the equaldivision rule was used after an income increase and when the prior allocations were equal. However, an income decrease or unequal prior allocations appeared to induce less shallow information processing resulting in the application of an equity rule.

Key words: Family, social-decision heuristics, resource allocation.

In the 1980 Social Trends Report, Pahl (1982) notes that only scant knowledge is reported about how families spend their incomes. However, more recently there has been a growing interest in matters of intra-household economy, particularly everyday financial management. Examples include research by Pahl (1995), Zelizer (1994), Rogers and Schlossman (1990), and Treas (1991) which among other things casts new light on the role of marital power for the allocation of resources within families.

Author Note: Equal responsibility is assumed for the first two authors. The study was financially supported by grant # 94-0086:2C to the last author from the Swedish Council for Social Research. A previous version of the article was presented at the 21st meeting of the International Association for Research in Economic Psychology (IAREP), Paris, France, September 11-15, 1996.

What makes the dynamics of economic decisions by families particularly interesting is, first, as noted by Galler and Ott (1993) and <u>Kirchler (1995)</u>, that there have been, and still are, ongoing transformations of households resulting in greater diversity. Internal organisation is changing and new functions are being taken over by household members. Second, the day-to-day economic decision making is probably one of the most common sources of family conflicts. Third, understanding the dynamics of the economic decision making by families contributes to an understanding of economic trends in general. In fact, households control the majority of economic resources in a country. Their decisions about consumption and savings are therefore very important for the national economy (Kirchler, 1995).

In making economic decisions family members frequently face choices which either favor their own interest or the interest of the family. A parallel may therefore be drawn to a social dilemma (Dawes, 1980; Komorita & Parkes, 1994; Pruitt & Kimmel, 1977). In a social dilemma group members either choose to cooperate or defect. The payoffs or outcomes of each member's choice depends on the others' choices. If all defect, the outcome will be worse than if all cooperate. The dilemma is that regardless of what the others choose, defecting is individually rational since the outcome for each individual is always better than if he or she cooperates. However, it is not collectively rational: All will obtain a lower payoff if all defect than if all cooperate.

In families partners' interests are sometimes in conflict. Therefore, they must tradeoff their own interests against the interests of their partners and the family. This creates interdependencies threatening the well-being of the individual, the partner, or the family (Kelley, 1979; Holmes & Boon, 1990). The conflicts family members face between self-interest and the interest of the family may sometimes have the defining properties of a social dilemma (Dawes, 1980). Almost no research has however investigated family conflicts from a social-dilemma perspective. In the following we briefly review findings from social-dilemma experiments (see, e.g., Van Lange et al., 1992; Messick & Brewer, 1983, for reviews) which may apply to decisions made by family members experiencing conflicts between self-interest and the interest of the family.

Previous research by Stockard, Van De Kragt, and Dodge (1988) and Sell, Griffith, and Wilson (1993) has examined sex differences in how people choose in social dilemmas. However, no reliable differences were found in these studies. In general men and women are influenced in similar ways by conditions which promote cooperation. Yet, Kerr and Mc Caun (1985) found an effect, ascribed to traditional gender roles, implying that men should provide for women but not vice versa. Thus, men were less willing to free ride (let the other partner make all or most of the contributions) when the partner was of the opposite sex as compared to when the partner was of the same sex. Conversely, women were more willing to free ride when the partner was of the opposite sex as compared to when the partner was of the same sex. Other studies have found that men are more likely to make allocation decisions based on equity, that is, proportional to input (Austin & McGuinn, 1977; Kahn, O'Leary, Krulewitz, & Lamm, 1980; Major & Deaux, 1982; Kahn & Gaeddert, 1985). On the other hand, women in general appears to favor equality. As noted by Burgoyne and

Lewis (1994), an important exception from this rule is when the female allocator's input is less. In this case favoring equality would be selfish.

It has been shown that in social dilemmas group members are motivated to benefit persons for whom they feel empathy (Batson et al., 1995). This is known as the empathy-altruism hypothesis (Batson & Oleson, 1991). It predicts more cooperation in a family since, in contrast to many other groups, members are likely to feel more mutual empathy. The hypothesis implies that in other groups the collective outcome will be worse if there are group members for which empathy is not felt. Mutual trust is another related factor that has been found to promote cooperation (Yamagishi & Cook, 1993). Such findings also suggest more cooperation in families than in other groups.

Cooperation in a social dilemma has been shown to be enhanced by considerations of fairness of outcomes (Biel, Eek, & Gärling, 1997; Wilke, 1991). Although there is agreement about that allocations should be fair, confusion may however arise concerning what is fair. Deutch (1975) proposed the three principles equity, equality, and need that can be applied to determine the fairness or justice of the distribution of benefits or burdens. The equity principle implies that allocations of resources should be made proportional to the contributions. According to Deutch (1975), this principle is dominating in competitive situations when productivity is the primary goal. When harmonious relations is the primary goal, the equality principle (equal share) is emphasized. The need principle dominates in intimate relationships in which individual well-being is the primary goal. However, Waggstaf, Huggins, and Perfect (1993) found that people did not consider need to be more fair than equity in a family. Equity was defined as a feeling of fairness derived from the individuals' perceptions of the overall balance of rewards and constraints in a relationship. In the past, equity theory has been applied to analyze close personal relationships (Walster, Berschied, & Walster, 1978; Traupman, Petersen, Utne, & Hatfield, 1981; Sprecher, 1986). In line with Wagstaff et al. (1993) an equity principle is suggested from this research: A sense of fairness is achieved when the proportionality between outcomes and contributions is the same for both partners in a dyadic relationship.

The notion of social-decision heuristic was first introduced by Rutte, Wilke, and Messick (1987) in a study of decision making in social dilemmas. A socialdecision heuristic is defined as an easily applied rule that a person may use to facilitate decisions. Decision makers who process information heuristically only use a fraction of their cognitive resources with the consequence that they do not consider all possible options and outcomes (Samuelson & Allison, 1994). A number of researchers have argued that an equal division of resources may frequently serve as a heuristic in complex social decision making (Allison & Messick, 1990; Rutte et al., 1987; De Vries & Wilke, 1992). Three characteristics making an equal-division rule a social-decision heuristic was noted by Messick (1993): (1) it is simple and therefore easily comprehended; (2) it leads to an obvious choice; and (3) it is easy to justify to oneself and others.

The purpose of the present two studies is to examine conditions under which family members use the social-decision heuristic of equal division in allocating resources. More specifically, we hypothesize that an equal-division rule is frequently used by family members making economic decisions, even though such a rule may be in conflict with decisions promoting the interest of the family. In particular we expect that this will be the case when individuals are engaged in shallow information processing. Another rule which the participants may use is the equity rule. Study 1 collected survey data from both a nationwide sample and a student sample. In Study 2 data were collected from students participating in a classroom experiment. In both studies we asked participants to indicate how they would allocate part of a monthly income to individual or joint savings.

Study 1

In Study 1 a shallow-processing equal-division rule prescribing that equally much of a monthly income should be allocated to joint and individual savings is compared to other possible allocations, such as maximizing allocation to joint savings or to individual savings. Since minimal information was provided in a set of survey questions, participants were expected to use the shallowprocessing equal-division rule. This rule was one of five choice options including equally many options entailing allocating more to joint savings as allocating more to individual savings.

Method

Participants and procedure. Questionnaires were mailed to a nationwide random sample of 2,000 people living in Sweden and a random sample of 460 students at Göteborg University. To be included in the sample participants had to be married and/or living with a partner. This limited the number for which usable data were available to 446 (233 men and 213 women) in the nationwide sample and 50 (26 men and 24 women) in the student sample. The average age of participants in the nationwide sample was 42.0 years and in the student sample 27.5 years. Of the participants in the nationwide sample, 84.5% had children (average family size 3.1). The corresponding number for the students was 32.0% (average family size 2.5). In the nationwide sample 26.9% of the participants had a university or university college degree and 29.1% a secondary college or high school degree. Their mean monthly income was SEK (Swedish crowns) 15,752 (1 SEK is approximately equal to 0.15 USD), and their partners' monthly income was SEK 15,141. In this sample 46.6% had a lower income than their partner, and 49.1% had a higher income. In the student sample, the participants' mean monthly income was SEK 1,410, and the partners' monthly income SEK 8,356. Fifty four percent had a lower income than their partner, and 10% had a higher income.

Questionnaire. The questionnaire consisted of 59 questions which in pretests were found to take between 30 and 45 minutes to answer. The bulk of the questions was asked for other purposes and concerned standard of living,

expectations about future changes in the economy, consumption plans, and attitudes to political and environmental issues.

Apart from some sociodemographic questions, responses to question #33 concerning the degree to which the family has a joint family economy were analyzed. Responses to this question were obtained on a nine-point scale ranging from not at all to a high degree. The main dependent measure was responses to questions #54 to #57 (see Appendix I). In these questions the respondents were asked to imagine that they and their cohabitant saved money every month to both individual and joint goals. They were then asked how they would allocate a part of the monthly income to joint and individual savings if they received an income increase or decrease which were either temporary or permanent. The sum to be allocated was SEK 1,800 (the approximate equivalent of \$300) after an income increase of SEK 600 or SEK 600 after an income decrease of SEK 600. The task was to choose one of five options which varied in equal steps from 5/6 to individual savings and 1/6 to joint savings to the reverse. The middle option corresponding to the equal-division rule allocated an equal amount to joint and individual savings. The choice options were in the questionnaire presented in unsystematic orders from left to right.

Results

The percentages of choices of each option are given in Appendix I. An independent variable expressing the degree of allocation to joint savings was constructed by assigning the numbers -2 to 2, ranging from allocating 5/6 of the sum to joint savings (2) to allocating 1/6 to joint savings (-2). The alternatives in between these two extremes were 2/3 to joint savings (1), equal to joint and individual savings (0) (equal-division rule), and 1/3 to joint savings (-1). In a multiple regression analysis including age, income, educational level, number of children, and sample, only the ratings of degree of joint family economy were found to be reliably associated with the dependent variable, $t_{(484)}$ = 8.45, p < .001. The higher participants rated the degree of a joint family economy, the more they allocated to joint savings. Means across participants in each sample are given in Table 1. As may be seen, in the condition with a temporary income increase participants allocated more to joint savings whereas the other conditions do not differ. The effect of income change was reliable as well as its interaction with whether it was permanent or temporary, $t_{(495)} = 2.74$, p < .01, and $t_{(495)} = 2.02$, p < .05, respectively. Separate Bonferonni-corrected ttests at p=.05 showed that the mean in the temporary income increase condition differed reliably from the other means but that no other differences were significant.

	Incom	e decrease	Income increase		
	Temporary	Permanent	Temporary	Permanent	
	M (SD)	M (SD)	M (SD)	M (SD)	
Nationwide sample (n=446) Student sample (n=50)	0.35 (1.38) 0.42 (1.53)	0.41 (1.32) 0.26 (1.48)	0.54 (1.27) 0.34 (1.48)	0.46 (1.26) 0.52 (1.43)	

Table 1Means and SDs of Allocations to Joint Savings as Related to Income Change forNationWide and Student Sample (Study 1).

Although one condition differed reliably from the others, inspection of the percentages in Appendix I reveals that the pattern does not differ much in any condition. As the mean percentages reported in Table 2 show, choices corresponding to the equal-division rule were as expected frequent. However, choices of the option of allocating as much as possible to joint savings were also frequent.

Table 2Percentages of Choices of Allocation Rules in Nation wide and Student Sample(Study 1).

	Joint/individual savings				
	1/6	1/3	1/2ª	2/3	5/6
Nationwide sample (n=446) Student sample (n=50)	$\begin{array}{c} 11.2\\ 18.0 \end{array}$	$\begin{array}{c} 10.1 \\ 6.5 \end{array}$	$\begin{array}{c} 32.3\\ 30.0 \end{array}$	$\begin{array}{c} 16.5 \\ 10.0 \end{array}$	$\begin{array}{c} 29.9\\ 35.5\end{array}$

^aEqual-division rule.

Discussion

The results confirmed the hypothesis in clearly showing that in all incomechange conditions, for both the samples, many of the participants chose the shallow-processing equal-division rule. However, choices which maximized joint savings were also frequent. Furthermore, after a temporary income increase maximal allocations to joint savings were slightly more frequent and the use of the equal-division rule slightly less frequent. No. 3:29, 7

An unexpected finding was that so many choices were made of the option in which the maximal possible amount (5/6) was allocated to joint savings. Although there may be several reasons for this, one coming easily to mind is that many participants selected this option because they have a joint family economy implying that all savings are joint.

A reliable difference indicated that in the temporary income-increase condition participants allocated slightly more to joint savings. This tendency was however not strong. There was no indication that participants' used the equity rule to the extent that has been found previously.

Study 2

A number of changes are introduced in Study 2. First, participants are told about the amount saved each month by themselves and their partners. Furthermore, they are given information about the prior allocations to joint and individual savings which in different groups are varied from 1/4 to joint savings and 3/4 to individual savings through equal to joint and individual savings to 3/4 to joint savings and 1/4 to individual savings. Our objectives for implementing these changes are twofold: First, an unequal prior allocation induces participants to less shallow processing of the information, leading to an increased likelihood that they will select another rule than equal-division, in particular the equity rule; Second, the manipulations allow for the provision of a more clear-cut distinction between shallow processing and the application of the equal-division rule. On the basis of the results of Study 1, the hypotheses proposed is (1) that the equal-division rule is used most frequently when prior allocation is equal but (2) that an equity rule is used most frequently when prior allocations are unequal.

Method

Participants. A total of 100 undergraduates at Göteborg University, 35 men and 65 women, participated in return for a lottery ticket worth approximately USD 4.0. Their mean age was 31.4 years. Forty eight participants were married or living with a partner. Equal numbers of them were randomly assigned to four groups with sex approximately balanced.

Procedure. Participants were informed about the study during a lecture and were asked to remain in the classroom if they wanted to participate. Those who stayed received a short questionnaire which took about 10 minutes to answer. The instructions on the front page of the questionnaire asked participants to imagine that they were married or cohabiting (disregarding whether or not they were) and that they each month allocate part of their income to individual as well as to joint savings. On each of the following pages three scenarios were

described. Following the scenarios there was a page with sociodemographic questions, including whether or not participants were married or cohabiting.

The three scenarios were replicates presented in orders which were counterbalanced across participants. In the scenarios presented to the different groups (see Appendix II), the total sums to be saved were the same (e.g., SEK 1,200) although differing across the replicates. In two of the groups subjects were told to imagine that normally they and their partner each month allocate equally much (e.g., SEK 400 in one of the replicates with different amounts in the other replicates) to individual as to joint savings. The scenarios in these groups differed in that subjects in one of them received income increases (e.g., SEK 400), in the other equally large income decreases. In the remaining two groups participants were told to imagine that they received the same income increases. In one of the groups participants and their partners normally allocated 3/4 to joint savings (e.g., SEK 600) and 1/4 to individual savings (e.g., SEK 200), and in the other group 1/4 to joint savings and 3/4 to individual savings.

For each scenario subjects indicated which one of five optional allocations to individual and joint savings they would choose. In the income-increase groups, the options varied in equal steps from allocating all the increase to individual savings to allocating all to joint savings. In the income-decrease groups, the options analogously varied in equal steps from deducting all the decrease from the individual savings to deducting all from the joint savings. Equal division was always one option.

Results and Discussion

The percentages of choices of the different options are given in Appendix II for each group. A dependent variable was constructed with five steps ranging from maximum allocation to joint savings (2) to maximum allocation to individual savings (-2).

As may be seen in Table 3 displaying the means of the degree of allocation to joint savings, the income-decrease group differs from the other groups in that more allocations were made to joint savings. A 4 (group) by 2 (sex) by 2 (marital status) analysis of variance (ANOVA) revealed a significant effect of group but no other reliable effects, F(3, 84) = 10.06, p < .001. Separate Bonferroni corrected *t*-tests at p = .05 showed that the mean for the group who received an income decrease differed reliably from the means of the other three groups for which the income increased. There were no reliable differences between the means for the other three groups.

Income decrease		Income increase						
Joint=	individual	Joint=ir	ndividual	_	Joint>ir	ndividual	Joint<	individual
М	(SD)	М	(SD)		М	(SD)	М	(SD)
1.11	(1.19)	-0.29	(1.22)		-0.72	(1.52)	-0.77	(1.48)

Table 3 Means and SDs of Allocations to Joint Savings as Related to Income Change and Prior Allocations (Study 2).

Table 4 shows how frequently choices were made of the options corresponding to different allocation rules. In support of the hypotheses, the equal-division rule was only the most frequent choice in the income-increase groups when the prior allocations were equal. Participants in the income-decrease group most frequently chose the option in which all the income decrease was deducted from the individual savings. Although this also meant that participants maximized joint savings, a more plausible interpretation is that they used the equity rule, taking into account who earn the money in the relationsship. Although the groups with unequal prior allocations differed reliably from the income-decrease group, they most frequently chose to allocate all the income increase to the individual savings. Probably they also used the equity rule.

Table 4

Percentages of Choices of Allocation Rules as Related to Income Change and Prior Allocations (Study 2).

	Income d	lecrease	Income increase		
– Jo	int=individual	Joint=individual	Joint>individual	Joint <individual< th=""></individual<>	
Equal division	24.0^{a}	36.0	54.7	16.0	
Status quo	24.0	36.0	6.7	2.6	
Equity Maximizing	54.7	22.6	54.7	56.0	
joint savings Maximizing	54.7	9.3	16.0	16.0	
individual savi	ngs 6.6	22.6	54.7	56.0	

^aItalized percentages are reported twice in the same column when two rules cannot be distinguished.

The results are open to alternative interpretations since the choices of allocation options did not always distinguish between the different rules. For instance, it is possible that matching the prior allocation (status quo) is the reason why a majority of choices were made of equal division in the group with an income increase and equal prior allocations. On the other hand, the statusquo rule was not frequent in the other conditions. There is no reason why shallow information processing leading to the use of such a rule should not be present when the prior allocations were unequal. A more plausible interpretation is therefore that the shallow-processing equal-division rule was applied unless either an income decrease or a different prior allocation forced participants to process information deeper. Against this interpretation may speak that the equal-division rule was an alternative possibility in the group where the prior allocation was 1/3 to joint savings. However, it is difficult to explain why the results in this respect should differ from the results in the group where the prior allocation to joint and individual savings were reversed. Finally, allocations according to the equity rule implied maximizing individual savings in the groups with unequal prior allocations. Since the same rule in the income-decrease group implied maximizing joint savings, the more parsimonous interpretation is that participants in all these groups used the equity rule.

In summary, the conclusion is warranted that the results of Study 2 were consistent with the proposed hypotheses. The shallow-processing equal-division rule of allocating an income to joint and individual savings is used after an income increase when prior allocations are equal. However, after an income decrease or when the prior allocations are unequal, processing is probably more shallow leading to the application of an equity rule. In neither case did participants consistently chose to maximize individual savings or joint savings.

General Discussion

The aim of the present research was to examine conditions under which family members use the social-decision heuristic of equal division in allocating resources. Messick (1993) has noted that this heuristic is simple and obvious to apply as well as easy to justify. In particular if people are engaged in shallow information processing, they may apply the heuristic even though it is in conflict with their own or others' interests. When participants of Study 1 who were married or cohabiting responded to survey questions concerning how much of a monthly income they would allocate to joint and individual savings, there was a strong tendency to divide the sum equally. Since the participants were asked to imagine that they themselves had received an income increase, it would probably have been acceptable to allocate the major part of the increase to their individual savings (Burgoyne & Lewis, 1994). However, because many participants indicated that they had a joint family economy, allocating a maximum amount to joint savings was also a frequent choice reflecting another social-decision heuristic.

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It is in line with the notion of a social-decision heuristic that an equaldivision rule is applied when participants have little prior knowledge. In Study 2 when participants were told about their and their partners' normal savings, the results were partly different. Consistent with previous research (Waggstaf et al., 1993), an equity rule appeared then to be frequently used. According to this rule an income increase which participants received led them to feel justified to add it to individual savings. At the same time they were compelled to deduct an income decrease from the individual savings. In the case of an income increase, a necessary condition appeared to be that the normal prior allocations of savings were unequal since choices were consistent with an equaldivision rule when prior allocations to joint and individual savings were equal.

It is argued that when subjects are induced to less shallow information processing, they may choose another allocation rule than equal division. Another prior allocation rule than equal division may induce less shallow information processing since an equal division is no longer easy to justify. The same may be true of an income decrease. Sharing of a loss appears to require more justification than sharing of a gain.

A question to be answered is to what extent our results concerning the use of social-decision heuristics made by families may be interpreted in terms of a social dilemma. Clearly, there is theoretical support for such an interpretation, as was outlined in the introduction. However, it is difficult to draw any conclusions about the nature of this relationship from the present study, since the choice of heuristic and selection of option to some extent were confounded. Bearing this in mind, the results may nevertheless be interpreted from the perspective of a conflict between self-interest and the interest of the family. In Study 1 in which participants were given no information about their and their partner's normal savings, a majority allocated half or more of the total sum to joint savings after an income increase. In Study 2 in which such information was available, participants instead allocated a major part of the income increase to their individual savings, keeping their contributions to the joint savings equal to their partners' contributions. As has been suggested by Burgoyne and Lewis (1994), although people may attempt to achieve equal outcomes for both partners, they still place a larger weight on the partner who earn the money in a relationship. Viewing conflicts between the self-interest of family members and the interest of the family as a social dilemma, cooperation cannot be expected to be the rule.

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APPENDIX I

Questions	Choice options ^a and percentages choice
You have received a temporary income increase of SEK 600 after tax from your work. You will therefore save SEK 1800 this month. Choose the alternative A, B, C, D, or E which most closely corresponds to how you would allocate this sum of money between individual and joint savings.	A B C D E Individual savings 1500 1200 900 600 300 Joint savings 300 600 900 1200 1500 Nationwide sample (n=446) 8.3 11.4 30.0 18.6 31.6 Student sample (n=50) 20.0 4.0 30.0 14.0 32.0
You have received a permanent income increase of SEK 600 after tax from your work. You will therefore save SEK 1800 this month. Choose the alternative A, B, C, D, or E which most closely corresponds to how You would allocate this sum of money between individual and joint savings.	A B C D E Individual savings 1500 1200 900 600 300 Joint savings 300 600 900 1200 1500 Nationwide sample (n=446) 8.7 12.6 31.6 18.6 28.5 Student sample (n=50) 12.0 12.0 28.0 8.0 40.0
You have received a temporary income decrease of SEK 600 after tax from your work. You will therefore save SEK 600 this month. Choose the alternative A, B, C, D, or E which most closely corresponds to how You would allocate this sum of money between individual and joint savings.	ABCDEIndividual savings500400300200100Joint savings100200300400500Nationwidesample (n=446)15.57.833.013.730.0Studentsample (n=50)20.04.028.010.038.0
You have received a permanent income decrease of SEK 600 after tax from your work. You will therefore save SEK 600 this month. Choose the alternative A, B, C, D, or E which most closely corresponds to how You would allocate this sum of money between individual and joint savings.	ABCDEIndividual savings500400300200100Joint savings100200300400500Nationwide12.38.334.515.229.6Student20.06.034.08.032.0

^aIn the survey the choice options were presented in unsystematic orders from left to right.

Equal prior allocation	ns (joint savings =	= individual savings) for inc	ome decrease			
	Joint/individual	8 /	Percentages			
Choice options	savings	Allocation rules	choice			
Nothing of income decrease	2/1	Fauity	54.7			
deducted from joint savings	2/1	Equity Maximizing joint savings	54.7			
1/4 of income decrease	7/5	Maximizing joint savings	10.6			
deducted from joint savings	115		10.0			
1/2 of income decrease	1/1	Equal division	24.0			
deducted from joint savings	1, 1	Status quo	21.0			
3/4 of income decrease	5/7	Status quo	0.0			
deducted from joint savings						
All income decrease	1/2	Maximizing individual savings	6.6			
deducted from joint savings		6 6				
Equal prior allocatio	n (joint savings =	= individual savings) for inco	ome increase			
All income increase to	2/1	Maximizing joint savings	9.3			
family savings						
3/4 of income increase to	7/5		14.6			
joint savings						
1/2 of income increase to	1/1	Equal division	36.0			
joint savings		Status quo				
1/4 of income increase to	5/7		17.3			
joint savings						
Nothing of income increase	1/2	Equity	22.6			
to joint savings		Maximizing individual savings				
Unequal prior allocation	n (joint savings =	3 x individual savings) for i	ncome increase			
All income increase to joint	5/1	Maximizing joint savings	16.0			
savings						
3/4 of income increase to	3/1	Status quo	6.7			
joint savings						
1/2 of income increase to	2/1		21.3			
joint savings						
1/4 of income increase to	7/5		1.3			
joint savings	1 /1	E	517			
Nothing of income increase	1/1	Equal division	54.7			
to joint savings		Equily Maximizing individual savings				
	<u> </u>		6			
Unequal prior allocation (joint savings = $1/3$ x individual savings) for income						
	inc	MAAAAA				
All income increase to joint	inc	Equal division	16.0			
All income increase to joint	inc 1/1	Equal division	16.0			
All income increase to joint savings	1/1	Equal division Maximizing joint savings	16.0			
All income increase to joint savings 3/4 of income increase to ioint savings	inc 1/1 5/7	Equal division Maximizing joint savings	16.0 5.3			
All income increase to joint savings 3/4 of income increase to joint savings	inc 1/1 5/7 1/2	Equal division Equal division Maximizing joint savings	16.0 5.3 20.0			
All income increase to joint savings 3/4 of income increase to joint savings 1/2 of income increase to ioint savings	inc 1/1 5/7 1/2	Equal division Maximizing joint savings	16.0 5.3 20.0			
All income increase to joint savings 3/4 of income increase to joint savings 1/2 of income increase to joint savings	inc 1/1 5/7 1/2 1/3	Equal division Maximizing joint savings	16.0 5.3 20.0 2.6			
All income increase to joint savings 3/4 of income increase to joint savings 1/2 of income increase to joint savings 1/4 of income increase to ioint savings	inc 1/1 5/7 1/2 1/3	Equal division Maximizing joint savings Status quo	16.0 5.3 20.0 2.6			
All income increase to joint savings 3/4 of income increase to joint savings 1/2 of income increase to joint savings 1/4 of income increase to joint savings Nothing of income increase	inc 1/1 5/7 1/2 1/3 1/5	Equal division Maximizing joint savings Status quo Equity	16.0 5.3 20.0 2.6 56.0			
All income increase to joint savings 3/4 of income increase to joint savings 1/2 of income increase to joint savings 1/4 of income increase to joint savings Nothing of income increase to joint savings	inc 1/1 5/7 1/2 1/3 1/5	Equal division Maximizing joint savings Status quo Equity Maximizing individual savings	16.0 5.3 20.0 2.6 56.0			

APPENDIX II