Volume Title: Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation

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Volume Publisher: NBER

Volume ISBN: 0-87014-402-2

Volume URL: http://www.nber.org/books/just64-2

Conference Date:

Publication Date: 1964

Chapter Title: Appendix C: Relation between Finance Rates and Loan-Size Preferences

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Chapter URL: http://www.nber.org/chapters/c1288

Chapter pages in book: (p. 93 - 97)

APPENDIX C

Relation Between Finance Rates and Loan-Size Preferences

The variant question data show some interesting relationships between loan size and finance rate. Four variant groups (9-12 and 13-16) provided alternatives with downpayments ranging from $0 to $600 indicating loan size from $1,500 to $900. The downpayment or loan size choices were identical for all four variants, hence the acceptance ratios discussed in the text throw no light on the relationship between loan size and rate. But differences in the pattern of first preferences among acceptable alternatives, as well as in the pattern of specific rejections of alternatives, prove to be useful for this purpose. Table C-1 summarizes the distribution of preferred alternatives for the four variant groups where downpayment (loan size) differed among the alternatives. Table C-2 does the same with respect to rejection of specific alternatives. Households rejecting all the alternatives are excluded from both tables, since preference data cannot be obtained.

In both variants 9 and 12 about two-thirds of the sample preferred to make the largest downpayment and borrow the least amount possible, despite the difference in finance rate. Among those who preferred smaller downpayments, however, there was a marked contrast between the preference pattern for alternatives carrying (implicit) 16 per cent and 4 per cent rates. Relatively more people preferred the minimum downpayment and the maximum loan when the finance rate was relatively low, as the recalculation at the bottom of Table C-1 shows. A similar difference exists in the preference pattern for variants 13 and 16, except that here there was a strong differential preference for the maximum downpayment-minimum loan alternative. Households

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TABLE C-1

DISTRIBUTION OF FIRST PREFERENCES AMONG FINANCE ALTERNATIVES FOR HOUSEHOLDS ACCEPTING AT LEAST ONE OF THE ALTERNATIVES, SELECTED VARIANT GROUPS

Variant Group	Interest Rate (per cent)	Number Preferring Alternative[b]					Percentage Preferring Alternative			
		Total[a]	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
9	4	216	30	27	20	139	14.0	12.6	9.3	64.2
12	16	201	14	21	34	132	7.0	10.6	17.1	65.3
13	4	206	31	17	49	109	15.0	8.3	23.8	52.9
16	16	211	26	14	21	150	12.4	6.7	10.0	70.8
							Recalculation for Alternatives 1, 2, and 3, excluding 4			
9	4						39.0	35.1	26.0	
12	16						20.3	30.4	49.3	

[a] The downpayment–loan-size combinations are:

	Alternative			
	(1)	*(2)*	*(3)*	*(4)*
Downpayment	0	200	400	600
Loan size	1,500	1,300	1,100	900

[b] Total preferences for the four alternatives must add up to the number of cases, because each of those households must have accepted at least one alternative, and only one highest preference among acceptable choices could be expressed.

faced with a 16 per cent rate (variant 16) had a much stronger preference for the maximum downpayment than those faced with a 4 per cent rate (variant 13). They also had a slightly weaker preference for the zero downpayment alternative, but the difference is not so great as between variants 9 and 12.

Indications of a preference for borrowing smaller amounts when rates are high can be found also in Table C-2. Comparing variant 9 (4 per cent rate) with variant 12 (16 per cent rate), we find a relatively less frequent rejection of the zero downpayment alternative and a relatively more frequent rejection of the maximum downpayment option. A similar but weaker pattern shows up in a comparison of variants

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TABLE C-2

DISTRIBUTION OF SPECIFIC REJECTIONS AMONG FINANCE ALTERNATIVES FOR HOUSEHOLDS ACCEPTING AT LEAST ONE OF THE ALTERNATIVES, SELECTED VARIANT GROUPS

Variant Group	Interest Rate (per cent)	Total[a]	Number Rejecting Alternative[b] (1)	(2)	(3)	(4)	Percentage Rejecting Alternative (1)	(2)	(3)	(4)
9	4	216	130	74	49	41	60.2	34.3	22.7	19.0
12	16	201	151	77	42	29	75.1	38.3	20.9	14.4
13	4	206	114	83	48	44	55.3	40.3	23.3	21.4
16	16	211	151	85	63	44	71.6	40.3	29.9	20.9

[a] The downpayment–loan-size combinations are:

	Alternative (1)	(2)	(3)	(4)
Downpayment	0	200	400	600
Loan size	1,500	1,300	1,100	900

[b] The total rejecting the four alternatives is greater than the total number of households in the sample because some households rejected more than one of the alternatives; to be included in this sample, a respondent had only to accept one of the four alternatives, and might have rejected the other three.

13 and 16. The net result is that consumers willing to borrow on the basis of the alternatives offered chose to borrow smaller amounts and reduce their cash holding by greater amounts when the implicit finance rate was relatively high. This evidence lends additional support to the proposition that hypothetical question data of this sort can be useful in the analysis of consumer borrowing decisions.

There is an interesting bit of evidence that most consumers in this sample did not take the trouble or were unable to compute the interest rates implicit in the alternative financing arrangements. Two of the variants (13 and 16) contain identical monthly payments throughout

for the four alternatives. Variant 13 has a 4 per cent rate, variant 16 a 16 per cent rate, and each contains the same downpayment–loan size alternatives. The difference in rates is indicated by the longer contract maturities for variant 16. But contract maturity was shown as a round number of months (24, 21, 17, and 14 for variant 13; 27, 23, 19, and 15 for variant 16). The number of months required to make the true interest rates 4 and 16 per cent, respectively, are obviously not round numbers. The variant 13 alternatives gave respondents the choice of borrowing a marginal amount of money at a negative finance rate, as shown below.

Alternative Finance Plans for Variant 13

Alternative	*Monthly Payment*	*Contract Length*	*Down Payment*	*Loan Size*
1	$65.10	24	$ 0	1,500
2	65.10	21	200	1,300
3	65.10	17	400	1,100
4	65.10	14	600	900

Given these alternatives, no rational person who does the arithmetic would prefer alternative 2 or 4 in variant 13. By choosing 2 instead of 1 a respondent says he is willing to put up an extra $200 in cash in order to make 3 fewer payments. But 3 x $65.10 is only $195.30, so he will pay more in the end than if he had borrowed the larger amount specified in 1. The same is true of the choice between 3 and 4, where no rational consumer would choose 4. Despite this, over half the sample chose alternative 4 as their first preference, indicating that a majority of our respondents reacted to amounts that seem "reasonable" or "high," rather than working out the amounts in arithmetic. A similar problem does not arise in variant 16, because the difference in contract maturity among alternatives is always 4 months; hence, respondents could borrow marginal amounts of $200 with repayment always 4 x $65.10 or $260.40.[1]

[1] This outcome was unintended. We wanted to offer a set of alternatives with constant monthly payments, varied downpayment, and a 16 or 4 per cent implicit rate. It seemed undesirable to give respondents an option of paying for 26.6 months. The natural supposition would have been that the alternatives were designed for some specific purpose—one easily discerned. To obtain normal reactions, if possible, the number of months was rounded and the over-all rate for each alternative checked to see that rounding gave a true rate closer to the desired rate than any other equally rounded alternative. But we neglected to check the marginal rate. If this peculiarity had been pointed out in advance, we might have left it anyway.

It is also evident that some respondents did make such calculations, and that the unusual pattern of the preferences in variant 13 accounts for much of the difference in the response to 13 versus 16 and 9 vis-à-vis 12. In variant 13, respondents who made the calculations chose alternative 1 in preference to 2, alternative 3 in preference to 4, and rejected both 2 and 4. Table C-1 shows that the preference patterns for variants 9 and 13, which were supposed to be quite similar, are different mainly because alternatives 1 and 3 in variant 13 have attracted respondents away from 2 and 4—as would be expected for respondents who did the arithmetic. The same is true of the specific rejection pattern in Table C-2.