

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Consumer Credit Finance Charges: Rate Information and Quotation

Volume Author/Editor: Wallace P. Mors

Volume Publisher: NBER

Volume ISBN: 0-870-14128-7

Volume URL: <http://www.nber.org/books/mors65-1>

Publication Date: 1965

Chapter Title: Consumer Knowledge of Finance Charges

Chapter Author: Wallace P. Mors

Chapter URL: <http://www.nber.org/chapters/c1623>

Chapter pages in book: (p. 80 - 91)

## 5. Consumer Knowledge of Finance Charges

THIS CHAPTER REVIEWS THE RESULTS of four surveys which were designed to test the extent of consumer awareness of finance charge information. Two of the surveys were in local areas with relatively small samples—Champaign and Urbana, Illinois (University of Illinois survey) and in the San Francisco Bay area (Lois Scott Hoskins' survey). The other two surveys were nationwide in scope and were made by the Survey Research Center of the University of Michigan and the National Bureau of Economic Research.

All four surveys investigated consumer knowledge of annual finance rates. Only the Illinois survey investigated consumer knowledge of dollar finance charges. The findings of all four surveys are similar and complementary, thus lending confidence to what is admittedly somewhat fragmentary evidence.

### *Illinois Survey*

The Bureau of Economic and Business Research of the University of Illinois conducted a survey of a random sample of 311 families in Champaign and Urbana in the first quarter of 1954. One of the purposes of the survey was to ascertain the extent and accuracy of consumer knowledge of instalment charges. The following quotation gives the results: <sup>1</sup>

Although respondents readily answered questions relating to amounts of credit contracted, approximately two-thirds of the users of instalment credit did not know the amount of the carrying charge or interest rate on their most recent instalment purchase. An even smaller percentage of the families (24 per cent) who borrowed cash knew the carrying charges [dollar amounts] on the most recent loan, but almost one-half were aware of the interest rates paid on the most recent cash loan.

<sup>1</sup> Jean Mann Due, "Consumer Knowledge of Instalment Credit Charges," *The Journal of Marketing*, October 1955, p. 164. Only twenty families reported borrowing cash.

The study investigated the relation between the consumer's knowledge of charges and rates and his income, marital status, and occupation. "A higher percentage of families in the lower income classes knew the carrying charges than families in the upper income group. The opposite was true for knowledge of interest rates." No correlation was apparent between the number of years married and knowledge of carrying charges or interest rates, or between occupation and these factors.<sup>2</sup>

The study also examined the relation between knowledge of charges and rates and credit size, with the following results:<sup>3</sup>

One would expect, *a priori*, the existence of a direct correlation between the amount of credit extended and knowledge of charges and interest rates. A test of this hypothesis revealed that, contrary to expectations, a statistically significant inverse correlation (at the .05 probability level) existed between credit extended and knowledge of carrying charges. Forty-eight per cent of borrowers of amounts less than \$200 knew the carrying charges, whereas 36 per cent of borrowers of \$200 to \$499 and only 18 per cent of those who borrowed more than \$500 knew the charges on the most recent credit extended. There was, however, no significant difference in knowledge of interest rates by amounts of credit extended.

#### *San Francisco Area Survey*

In an interview study of 105 instalment buyers of new and used cars in the San Francisco Bay area, the interviewer asked each family what annual or simple (effective) interest rate it paid for instalment credit.<sup>4</sup> Seven respondents bought used cars from dealers who included the finance charge in the price of the car and said they paid no finance charge. Of the remaining ninety-eight respondents, 70 per cent said they did not know what rate they paid and 30 per

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*, pp. 164-165.

<sup>4</sup> Lois Scott Hoskins, "Interest Rates Paid for Automobile Credit by San Francisco Bay Area Families," unpublished M.A. thesis, University of California, September 1958, p. 56. Mrs. Hoskins drew the names of 400 San Francisco Bay area car buyers at random from public registration records in Sacramento, California. One-half of the registrations were between November 17 and 23, 1956, and the other half between January 25 and 28, 1957. Mrs. Hoskins interviewed 105 of these families and the study results are based on these interviews. The other 295 families were eliminated for the following reasons: distance (57), business firms (15), impossibility to trace them (53), not at home (38), refusal to answer (16), employment of cars for business purposes (15), ineligibility for the study (100). The eligibility requirements were that (1) the family must include a husband and wife living together and (2) the credit must be obtained from some source other than a credit union.

cent gave answers which, with few exceptions, were considerably below the rates they actually paid (see Table 12). In three of the

TABLE 12

Distribution of Effective Annual Interest Rates Paid, According to Interest Rates Stated by Respondents, 1956-57

Rates Reported by Respondents (per cent)	Number of Respondents	Effective Annual Interest Rates Paid <sup>a</sup> (per cent)	
		Median	Range
3 or 4	3	11.6	7.7 <sup>b</sup> -13.6
5 or 6	19	12.0	5.6 <sup>c</sup> -20.3
7 or 8	6	20.8	11.5 -32.5
15	1	13.6	
Total	29	12.0	5.6 <sup>c</sup> -32.5

SOURCE: Hoskins, "Interest Rates," p. 56.

<sup>a</sup> Computed by the constant ratio formula.

<sup>b</sup> Employee given a 4 per cent add-on rate by bank.

<sup>c</sup> Balloon contract for an automobile salesman.

four classes shown in the table the median rate actually paid is at least double the rates reported by respondents, and in two of the four classes the lowest rate paid is almost double the rates reported by respondents. In only one class is the reported rate approximately the same as the rate paid; this class includes one family. If reported rates were meant to signify add-on or discount rates, respondents may have estimated actual rates more closely than would appear. Yet if respondents believe that add-on or discount rates are the same as effective annual rates, the degree of underestimation remains the same.

Comparison of Tables 12 and 13 indicates that the rates actually paid by the twenty-nine respondents who stated what rate they paid (Table 13) fall in the same general range as the rates paid by all ninety-eight respondents.

#### *Survey Research Center Survey*

In a 1959 survey, the Survey Research Center of the University of Michigan asked consumers to state what finance charges they thought they would pay to finance a car on credit. Thirty-nine per

cent gave too vague an answer to be coded or said they did not know. The remaining 61 per cent gave answers which covered a wide range. Since these answers were considered to be effective annual rates,<sup>5</sup> many consumers underestimated the finance rates they would pay. As indicated in Table 14, 37 per cent of those who gave usable answers said they would pay under 7 per cent in 1959, whereas only 5 per cent of new-car finance contracts were financed at effective rates of less than 7 per cent in 1954-55.<sup>6</sup>

TABLE 13  
Distribution of Effective Annual Interest Rates Paid  
by Respondents on New and Used Cars, 1956-57

Effective Annual Interest Rates <sup>a</sup> (per cent)	New Cars		Used Cars	
	Number	Per Cent	Number	Per Cent
4.9 - 5.9	3 <sup>b</sup>	6.0	0	—
6.0 - 7.9	1	2.0	1	2.1
8.0 - 9.9	2	4.0	4	8.3
10.0 - 11.9	14	28.0	2	4.2
12.0 - 13.9	21	42.0	5	10.4
14.0 - 15.9	4	8.0	2	4.2
16.0 - 19.9	4	8.0	4	8.3
20.0 - 24.9	0	—	12	25.0
25.0 - 29.9	1	2.0	7	14.6
30.0 - 39.9	0	—	6	12.5
40.0 and over	0	—	5	10.4
Total	50	100.0	48	100.0

SOURCE: Hoskins, "Interest Rates," p. 31.

<sup>a</sup> Computed by the constant ratio formula.

<sup>b</sup> These contracts were one-year balloon contracts.

Because the question did not distinguish between new- and used-car financing, the degree of underestimation is even more marked than shown in Table 14, since used-car finance rates exceed new-car rates. On the other hand, it is possible that some consumers may have overestimated the rates they would have to pay. For 21 per cent said one would pay 16 per cent or more, whereas only 3 per

<sup>5</sup> Interviewers converted some answers given in dollars to annual finance rates.

<sup>6</sup> Available data indicate a slight rise in new-car finance rates from 1954-55 to 1959. The rise is not sufficient to change the results of comparing consumer answers in 1959 with new-car rates in 1954-55. For the trend of new-car finance rates, see Robert P. Shay, *New-Automobile Finance Rates, 1924-62*, NBER Occasional Paper 86, New York, 1963.

cent of the new-car contracts were actually financed in this range (Table 14). The data do not permit a realistic appraisal of the number of overestimates.

TABLE 14  
Distribution of Consumer Estimates and Actual Finance  
Rates on Auto Financing, 1954-55 and 1959  
(per cent)

Annual Rate	Distribution of Consumer Estimates of Finance Rates, 1959 <sup>a</sup>	Distribution of Actual Finance Rates <sup>b</sup>			
		All Credit Sources, 1954-55	Banks, 1954-55 <sup>c</sup>	All Sales Finance Companies, 1954-55	Four Large Sales Finance Companies, 1959
Under 4	3	1	1	d	d
4 - 6.99	34	4	7	1	d
7 - 9.99	15	36	53	23	5
10 - 12.99	21	47	31	60	60
13 - 15.99	5	9	6	12	32
16 and over	21	3	3	3	2
	100	100	100	100	100

<sup>a</sup> Taken from November 1959 Interim Survey of the Survey Research Center of the University of Michigan. The question asked consumers is given in note a to Table 10. The percentages are based on usable responses. Nonusable responses (don't know, uncodable answers, or answers not ascertained) comprised 39 per cent of total responses.

<sup>b</sup> 1954-55 rates are based on data compiled by the Federal Reserve System. 1959 rates are compiled by the National Bureau. Effective rates are computed by the constant ratio formula.

<sup>c</sup> Includes direct and indirect financing.

<sup>d</sup> Less than .5 per cent.

NOTE: Detail may not add to total because of rounding.

It is possible that many consumers were thinking in terms of add-on or discount rates in giving the answers which underlie the computed figures in Table 14. In this event it is uncertain whether the implication of underestimation of the cost of credit is correct. However, if consumers actually believe that the concept of cost as measured by add-on or discount rates is equivalent to either simple or compound interest, there is a strong underestimate of credit cost when they make accurate statements of add-on or discount rates.

#### *National Bureau-Consumers Union Survey*

The National Bureau of Economic Research sent members of the

Consumers Union Members' Panel a questionnaire in the spring of 1960 which, among other things, asked for the information in Table 15.<sup>7</sup> There were 1,059 usable replies, of which 840 or 79 per cent reported rates (see last question of Table 15) and filled in sufficient other information to enable the National Bureau to determine annual finance rates; 219, or 21 per cent, of the replies did not report rates but did report sufficient other information to enable the National Bureau to compute annual finance rates. Table 16 gives, for four loan classes, the mean reported and mean computed finance rates for the 840 cases and the mean computed finance rates for the 219 cases.

TABLE 15

Question 25A, Reinterview Questionnaire, May 1960,  
Consumers Union Members' Panel

---

Have you bought anything on the instalment plan since April 1958?

Yes ☐

No ☐

If yes, please write in the items in the boxes; then fill in the rest of the information as best you can remember. Otherwise skip to question 26.

Items Purchased on Instalment Plan

	<input type="text"/>	<input type="text"/>	<input type="text"/>
Price of item	_____	_____	_____
Amount received on trade-in	_____	_____	_____
Cash down payment	_____	_____	_____
Amount borrowed	_____	_____	_____
Size of monthly payments	_____	_____	_____
Number of payments made	_____	_____	_____
Number of payments left	_____	_____	_____
Do your monthly payments include:			
Credit life insurance?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Other insurance?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
What interest rate did you have to pay?	_____ %		

---

Except for the \$2,000-and-over loan-size class, mean reported rates tend to fall with size of loan. "Thus consumers seem to know that

<sup>7</sup> For a more detailed analysis of this survey, see F. Thomas Juster and Robert P. Shay, *Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation*, NBER Occasional Paper 88, New York, 1964, Section II.

finance rates are appreciably higher on credit transactions involving relatively small (under \$500) loan sizes than on credit transactions for larger loans." <sup>8</sup> They are not accurate, however, in reporting finance rates within each loan class. If both the type of commodity financed and the size of loan are held constant, there is no association between the rates actually paid and reported rates. In only one of twenty-four groups of credit transactions classified by type of commodity and loan size was there a statistically significant correlation (at the 5 per cent level) between actual rates and reported rates.<sup>9</sup>

Table 16 also indicates that the effective rates for nonreporting respondents are higher than for reporting respondents in each loan class. Since the differences "... are substantial only for the relatively few cases involving large loan sizes, failure to report rates does not, for the most part, seem to result in payment of appreciably higher rates. The evidence suggests that, for credit transactions involving relatively small loan sizes, households reporting rates are guessing, while those not reporting rates are admitting complete ignorance. In contrast, for credit transactions involving large loan sizes, the few nonreporting households paid appreciably more. We infer they had less information about rates and that lack of information was responsible for the high rates they paid." <sup>10</sup>

Juster and Shay present an alternative arrangement of the data to throw further light on the relation between rate knowledge and loan size. They divide respondents who reported rates into three groups: (1) those who reported rates roughly equal to the finance rate; (2) those who reported rates roughly equal to one-half the finance rate; and (3) all others. "The first group is an estimate of the maximum number of respondents who could be said to possess accurate information about effective annual rates; the second, an estimate of the maximum number to possess accurate information about add-on or discount rates; and the remainder, the minimum

<sup>8</sup> *Ibid.*, p. 51. Consumers also seem to be aware that "... some classes of loans (automobile, home improvement) are likely to carry relatively low finance rates, others (furniture), to carry relatively high rates ..." (*ibid.*, p. 59). Juster and Shay refer to this type of rate knowledge as "institutional knowledge."

<sup>9</sup> *Ibid.*, p. 57.

<sup>10</sup> *Ibid.*, p. 52.



TABLE 16

Distribution of Reported Annual Rates and Derived Finance Rates  
by Amount Borrowed

Amount Borrowed (dollars)	Respondents Reporting Rates				Respondents Not Reporting Rates			
	Number	Per Cent of Cases in Loan Class	Mean Rate		Number	Per Cent of Cases in Loan Class	Mean Rate	
			$f_r$	$f_a$			$f_r$	$f_a$
Under 500	440	71.7	9.4	30.8	174	28.3	—	32.2
500 - 999	113	82.5	7.4	19.5	24	17.5	—	20.8
1,000 - 1,999	207	92.4	6.9	13.8	17	7.6	—	18.6
2,000 and over	80	95.2	7.4	10.6	4	4.8	—	19.2
Total	840	79.3			219	20.7	—	
Mean			8.3	23.2				29.9

SOURCE: Juster and Shay, *Consumer Sensitivity*, p. 51.

NOTE  $f_r$  = reported annual finance rate;  $f_a$  = computed finance rate.

TABLE 17

Estimated Distribution and Mean Effective Rates of Sample of  
Households, Classified by Rate Information and Loan Size  
(per cent)

ESTIMATED DISTRIBUTION OF HOUSEHOLDS WITH <sup>a</sup>								
Loan Size (dollars)	Sample Size	Accurate Information on		No Rate Infor- mation, Group 3	Mean Effective Annual Finance Rates Paid			
		Effective Rates, Group 1	Add-On Rates, Group 2		Group 1	Group 2	Group 3	Total
Under 500	440	5.1	6.0	88.9	12.1	17.1	37.0	30.8
500 - 999	113	7.4	8.3	84.3	8.3	14.8	24.8	19.5
1,000 - 1,999	207	7.6	19.0	73.4	8.1	10.9	19.7	13.8
2,000 and over	80	10.6	20.3	69.1	7.2	11.0	13.7	10.6
Total	840	6.6	11.3	82.1				

SOURCE: Juster and Shay, *Consumer Sensitivity*, Table 8, p. 55.

<sup>a</sup> The procedure used in obtaining these percentages was as follows: (1) the proportions of cases in which the computed finance rate fell within plus or minus 2 percentage points of the reported rate were calculated ( $P_a$ ); (2) the proportions of cases in which actual rates would have fallen within these ranges by chance were estimated ( $P_o$ ); (3)  $P_o$  was subtracted from  $P_a$ ; (4) the result was divided by the difference between 100 per cent and  $P_o$  (*ibid.*, p. 54, fn. 10).

number to possess neither kind of rate information.”<sup>11</sup> The authors then estimate the probable proportions of each group of respondents with accurate rate information (see Table 17, note a) in order to analyze the results.

Table 17, which presents the results for these three groups by loan size, indicates that the extent of respondents' information about rates is inversely related to loan size. “Only 11 per cent of the respondents in the under \$500 loan-size class appear to have any information about rates, and a majority of these knew only add-on or discount rates rather than effective annual finance rates. In contrast, about 30 per cent of the respondents in the over \$2,000 loan class appear to have had fairly accurate rate information, predominantly about add-on or discount rates. In general, only a small proportion of the sample appears to have reasonably accurate information about rates charged on their own credit transactions.”<sup>12</sup>

Table 18 is based on the same survey and provides support for the existence of a “6 per cent myth,” i.e., the belief on the part of many credit users that they can obtain credit at an annual finance rate of 6 per cent. The table distributes the 840 respondents among twenty-one classes of computed annual finance rates, of which only one class includes 6 per cent. In sixteen of these twenty-one classes, 25 per cent or more of the respondents stated they were paying 6 per cent and in no class did the percentage fall below 12 per cent. The proportions of 6 per cent cases in each computed rate class show no upward or downward trend as the size of rate class increases. On the basis of other evidence collected by the Survey Research Center, George Katona states that “. . . many present-day users of instalment credit believe that the finance charges amount to 6 per cent or even less.”<sup>13</sup>

Juster and Shay summarize the results of their study as follows: “First, few respondents had any awareness of the finance rates they had actually paid on instalment credit transactions. . . . If asked the price, they respond with essentially random figures. . . . Second,

<sup>11</sup> *Ibid.*, p. 53.

<sup>12</sup> *Ibid.*, pp. 54–55.

<sup>13</sup> *Consumer Credit Labeling Bill*, Hearings before a Subcommittee of the Committee on Banking and Currency, U.S. Senate, 86th Congress, 2nd Session, Washington, 1960, p. 809.

despite the lack of rate knowledge, consumers appeared to know that certain kinds of credit cost more than others. . . . However, institutional knowledge, alone, cannot be expected to guarantee that borrowers will secure the lowest cost alternatives available to them. Third, the limited amount of rate information is mainly concentrated among "unrationed consumers."<sup>14</sup>

TABLE 18

Respondents Reporting 6 Per Cent, by Class Intervals of Actual Rates Paid

Class Intervals of Actual Rates Paid (per cent)	Number of Respondents in Class (1)	Respondents Reporting 6 Per Cent	
		Number (2)	Per Cent (3)
Under 4.50	53	15	28
4.50 - 5.49	17	2	12
5.50 - 6.49	24	6	25
6.50 - 7.49	29	12	41
7.50 - 8.49	30	5	17
8.50 - 9.49	48	12	25
9.50 - 10.49	44	17	39
10.50 - 11.49	36	15	42
11.50 - 12.49	45	16	36
12.50 - 13.49	33	10	30
13.50 - 14.49	19	6	32
14.50 - 15.49	36	10	28
15.50 - 16.49	23	5	22
16.50 - 17.49	32	9	28
17.50 - 18.49	15	3	20
18.50 - 19.49	35	5	14
19.50 - 29.49	124	31	25
29.50 - 39.49	76	18	24
39.50 - 49.49	39	14	36
49.50 - 99.49	65	18	28
99.50 and over	17	5	29
Total	840	234	28

SOURCE: Juster and Shay, *Consumer Sensitivity*, pp. 60-61.

### Concluding Remarks

The evidence from all four surveys suggests that relatively few

<sup>14</sup> Juster and Shay, *Consumer Sensitivity*, pp. 60, 73-74. To recall, they define "unrationed consumers" as consumers whose actual and preferred debt levels are the same; hence, their marginal borrowing cost is equal to (or less than) the going rates of primary lenders, i.e., banks and sales finance companies (*ibid.*, p. 14, 62-64).

consumers calculate finance rates with reasonable accuracy and that most consumers appear to believe that rate levels are substantially lower than they are in fact. The National Bureau survey also suggests that relatively few consumers calculate add-on or discount rates with reasonable accuracy. Neither the Michigan nor the NBER surveys ascertained whether respondents were reporting computational or effective rates. If consumers actually believe that the concept of cost as measured by add-on or discount rates is equivalent to either simple or compound interest, there is a strong underestimate of credit cost even when consumers know add-on or discount rates.

The National Bureau survey finding that consumers seem to know that relatively small loans cost more than relatively large loans and that auto credit is cheaper than most other forms of instalment credit implies some knowledge of rate differences among broad categories of credit transactions. In a similar vein is the Survey Research Center finding that the majority of consumers believe that banks are a lower-cost source of auto credit than car dealers.<sup>15</sup>

The Illinois survey also covered dollar charges and found that only a minority of consumers knew the amount of such charges on their most recent instalment purchase or instalment loan. None of the four surveys studied the extent of consumer knowledge of monthly rates or monthly payment size. While nothing can be said of monthly rate knowledge, there is strong empirical evidence elsewhere supporting the notion that consumers have reasonably accurate knowledge of monthly payment size because they have repeated payments to make. Arthur L. Broida, reporting on the pattern of response errors found in the 1954-55 Federal Reserve's New-Car Purchases Survey, stated that: "Nearly 80 per cent of the buyer reports on payments were within \$1 of the lender reports, and the cases of difference were distributed very nearly symmetrically about zero in absolute terms."<sup>16</sup> Broida found that buyer recollections (from six to thirty months prior to the interview) of monthly pay-

<sup>15</sup> George Katona, in *Consumer Credit Labeling Bill*, p. 807.

<sup>16</sup> "Consumer Surveys as a source of Information for Social Accounting: The Problems," *The Flow-of-Funds Approach to Social Accounting*, Studies in Income and Wealth 26, Princeton for NBER, 1962, p. 375.

ments were markedly superior to their recollections of car price, total loan, or loan principal.

The findings of the four surveys are consistent with the widely held assumption that consumers have little knowledge of credit costs in terms of any of the varied forms of finance charge information. This conclusion is based upon answers to questions on either recent actual borrowings (the Illinois, San Francisco Area, and NBER-Consumers Union surveys) or a common hypothetical automobile-financing situation (the Survey Research Center survey).