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The Effect of Disclosure on Consumer Knowledge of Credit Terms: A Longitudinal Study

Abstract
Early evaluations of Truth-in-Lending have observed impressive gains in consumer knowledge about interest rates. Contrary to original goals, consumers with more education, income, and debt experience have benefited far more than low-income and minority consumers. How will these results change over time as consumers gain credit experience with the aid of disclosure? Has disclosure improved consumer understanding about finance charges, and what factors beyond socio-economic status might have enhanced consumer knowledge of credit terms? These questions are addressed in this report of a large sample of California households surveyed at two points in time. The longitudinal analysis shows individual changes in knowledge, the effects of credit experience on learning, and a projection of future levels of credit knowledge.

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THE EFFECT OF DISCLOSURE ON CONSUMER KNOWLEDGE OF CREDIT TERMS: A LONGITUDINAL STUDY

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INTRODUCTION

Truth-in-Lending (TIL) was implemented on July 1, 1969 with the expectation that (1) improving consumer knowledge of annual percentage rates of interest (APR) and dollar finance charges associated with credit purchases would lead to (2) more informed credit decisions by facilitating comparision shopping for credit terms![1] This article examines the present and future prospects for achieving the first of these two goals: changes in the level of knowledge.

Other studies of the impact of TIL have found impressive increases in knowledge of APR's during the first fifteen months after regulation.[2] Despite these gains, the majority of borrowers still lacked reasonable knowledge of the APR on a recent purchase. More accurate knowledge tended to be positively associated with education, familiarity with TIL, and total debt burden.[3] These findings have left several important questions unanswered. First, would the same results be obtained for knowledge of finance charges? Second, are there other factors, beyond socio-economic variables and level of debt, which might explain differences in the level of knowledge of credit terms? Finally, will the level of knowledge continue to improve as more

consumers experience several credit transactions in which TIL disclosures are made (or conversely, will decline as disclosure becomes a familiar part of the transaction and as publicity announcing the regulation is discontinued?).[4] These questions are the specific concerns of this article.

RESEARCH DESIGN

The data in this study were obtained from personal interviews of a probability sample of 643 California heads of households[5] in October 1970 and reinterviews with a random subsample of 196 households in July 1971. The baseline (T1) survey gathered extensive data about each respondent's knowledge and attitudes toward consumer credit, history of credit usage, assets and debts, plus a broad range of demographic and socio-economic variables. If the family had purchased a car or major household durable exceeding one hundred dollars during the previous year, an additional set of questions was asked. These questions retraced important decisions during the purchase process from the recognition of need to purchase, through the search and evaluation of alternatives, to the actual purchase. For items bought on credit, additional questions captured the details of the credit transaction. Questions were asked only of those respondents directly involved in the purchase decision process.

The reinterview (T2) subsample was representative of the baseline sample with one exception. Because of a deliberate effort to reinterview respondents who had reported a credit purchase prior to T1, the T2 subsample was biased toward households with greater credit experience. Analysis of the data in this reinterview survey,[7] as well as experience with similar panel designs augmented with a control group,[8] suggests that the reactive or conditioning

effect of participation in the baseline survey on reinterview responses was negligible.

During the reinterview the questions on credit knowledge, attitudes and experience were repeated. If a major purchase had been made in the interim, the purchase process was retraced as in the first interview.

KNOWLEDGE OF CREDIT TERMS IN THE BASELINE SURVEY

The Problem of Defining Accuracy of Knowledge

Two approaches have been used to determine the accuracy of consumer knowledge of APR's. One of them involved a comparison of (a) the perceived APR for a hypothetical $1000 auto loan, repaid in twelve monthly payments, versus (b) the actual APR the respondent was paying or had paid on an auto loan within a year prior to the interview.[9] This approach has serious shortcomings. First, the perceived rate could have either been given directly by the respondent or transformed by the researcher from an estimate of the carrying charges on the hypothetical purchase. As we will show later consumer estimates of rates and charges are biased in opposite directions. Thus treating the two answers as equivalent introduces a great deal of error into the perceived rate variable. A second problem is the use of payment details (number of payments, amount of each payment, amount borrowed, etc.) to compute the actual APR. Unfortunately, as our experience will show, there are upward biases in this data which seriously reduce the accuracy of the computed APR.

The second approach used "awareness zones" defined by normal minimum rates actually paid for different types of credit.[10] Thus, if a respondent declared that the rate being paid was 8 per cent or above for cars or 12 per

cent or more for household durables, he (or she) was classified as having accurate knowledge or awareness of rates. A respondent who estimated a rate below these minimums or could provide no answer was classed as unaware. Although these zones can be supported empirically they inevitably overstate the level of knowledge.

This study uses a modified version of these awareness zones. The minimum levels will remain at 8 and 12 per cent for cars and household durables, respectively, but an upper limit of 30 per cent will be placed on all estimates. An individual inspection of estimates exceeding 30 per cent revealed that the respondents were almost certainly misinformed about the rates being charged. Furthermore the existing rate ceilings in California made these rates improbable.

Knowledge of Rates and Charges

Table 1 compares the estimates of interest rates versus finance charges made by 192 buyers who made a major credit purchase (using cash loans or sales credit) during the year preceding the baseline interview. The interest rate estimate was provided directly by the respondent. The estimate of finance charges was combined with estimates of purchase price, trade-in value, down-payment, number of monthly payments for computation of an equivalent interest rate.[11] The large proportion of "don't knows" in this equivalent rate was almost entirely due to unawareness of the finance charges.

The distributions in Table 1 reflect a general tendency to understate the interest rate and to overestimate finance charges, (especially compared to the prevailing interest rates in California in 1970 of 12-16 per cent for car loans

and 18 per cent for household durables). This bias is most evident among car buyers where more than 50 per cent likely understated the actual APR being paid. A positive sign is notable among buyers of household durables where one-fourth reported APR's between 17 and 20 per cent. A big problem remains with the respondents who were unable to offer any estimate of rates or charges.

Because the estimates of interest rate and finance charge were biased in opposite directions only 19 per cent of the car buyers and 13 per cent of the durables buyers were able to estimate both correctly (even using a loose definition of a "correct" estimate).[12] Conversely almost 40 percent of both auto and durables buyers gave an incorrect estimate or answered "don't know" for both credit terms. The remainder got one or the other correct. These results reflect a high level of misinformation and ignorance that has not been dispelled by TIL.

Determinants of Accuracy of Knowledge

Efforts to identify characteristics of knowledgeable buyers have not been especially rewarding.[13] Because these studies relied on socio-economic variables to explain differences in APR knowledge little is known about the possible contribution of other explanatory variables. This study overcomes this limitation by including measures of: (1) the conditions preceding the purchase, (2) specific details of the purchase (including amount financed, prior experience with the retailer or dealer and involvement of dealer in making credit arrangements), (3) financial status (total non-mortgage debt, holding savings accounts and so forth), (4) credit experience and attitudes, and (5) awareness of the provisions of TIL. Furthermore, the other studies looked only at know-

ledge of APR. There is no reason to believe that the determinants of accurate knowledge of finance charges would be the same as for APR, given the differences in the estimation bias noted above.

The large number of descriptors relative to the number of data points necessitated a step-wise regression procedure. The results of this analysis are reported in Table 2. Only those variables with t-values greater than 1.0 were introduced into the equation. Even with this restriction enough variables were entered to require a downward adjustment of R^2 to account for the reduction in degrees of freedom.[14] In the interpretation of the adjusted R^2's, which range from .09 to .35, it should be remembered that the upper bound on this overall measure of variance explained is less than 1.0 when a binary dependent variable is used.[15]

A second consideration in the evaluation of Table 2 is the use of binary dependent variables, suggesting that buyers either know or don't know the credit terms of their purchase. In fact, accuracy of knowledge is more likely to be a matter of degree. Unfortunately, a continuous (ratio scaled) measure of accuracy is infeasible. First, it is difficult to determine the interest rate actually being paid without obtaining the credit agreement. Secondly, such a scale cannot consider "don't know" responses, which make up 32 percent of all responses. It should be recognized that the dichotomising approach masks important differences in knowledge, and hence will sharply reduce the explanatory value of the descriptive variables.

Virtually none of the substantially augmented set of descriptive variables were significantly related to APR knowledge. Education was weakly related to knowledge in the case of durable purchases and women were somewhat less inform-

ed about APR's for cars, but other variables had virtually no effect. These results are not necessarily at odds with other studies which found more significant relationships. These studies used larger samples which, ceteris paribus, will yield a larger proportion of significant relationships or higher levels of significance.

What is striking about the cumulative results of all studies is the tendency for uniform dispersion of APR knowledge (albeit at a low level) throughout the population. Evidently we are measuring institutional knowledge which has been strongly influenced by repeated exposure and previous experience with discount or add-on rates.

Knowledge of finance charges was not nearly so uniform, and was significantly related to several explanatory variables. For both cars and major durables, knowledge was improved if an effort had been made to shop for a deal or a sale, and declined with home ownership, large monthly credit payments on the purchase and prior experience with the store or dealer. By contrast with APR knowledge these explanatory variables relate primarily to the specific purchase decision.

Degree of financial security appears to describe the general category of the socio-economic variable most closely related to knowledge. That is, there is a consistent, although not always significant, pattern for non-home owners, in lower income groups, with greater than average debt burdens, to have more accurate knowledge of the finance charges actually paid on a recent purchase. These groups have to be more concerned about the impact of credit charges on their budget.

Two strong relationships for durable purchases are of particular interest. First, a familiarity with the provisions of TIL increase the probability of knowledge of finance charges by .31 (this is particularly meaningful as only .40 of the total sample were aware of finance charges; see Table 1). Second, buyers with more favorable attitudes toward the use of credit, were less likely to either notice or to recall the amount of finance charges. In sum, the disclosure of credit charges helped those who needed information and/or were looking for it because of concern over the value of credit.

PROSPECTS FOR IMPROVEMENTS IN KNOWLEDGE OF CREDIT TERMS

Thus far, the conclusions of this and other studies have dealt with the knowledge situation within the 15 months following the implementation of TIL. This is a relatively short period of time given the interval between major credit purchases and as such, it allows for little accumulation of experience. The question is whether the level of knowledge will continue to improve in the future with additional experience; or, conversely, will it stabilize or decline as credit information loses saliency through familiarity. This section of the paper analyses the knowledge situation after 25 months and makes a forecast beyond that point. This forecast will be based on the patterns of individual change in knowledge (i.e., learning and forgetting) which are masked by measures of aggregate change in knowledge.

Ideally one would prefer to assess knowledge of rates and charges for an actual purchase during both interviews. Because of the limited sample size, the number who made a major credit purchase prior to the first interview (T1) and also in the ten months before the re-interview (T2) was too small

for reliable comparisons. Therefore, in this section the analysis is based on answers to a hypothetical question asked of all respondents at T1 and T2. Respondents were asked to estimate the total cost (principal plus finance charges) and the APR that they would pay for a $500 color television set purchased on a one-year retail installment contract with equal monthly payments.

Although such a hypothetical question can be criticized because it is not based on an actual experience, it has several notable advantages. First, knowledge measures can be obtained for non-purchasers as well as recent buyers of large items. Second, it avoids the problem of lack of knowledge of an actual purchase because the respondent's spouse was more involved in the details of the credit transaction. Third, a hypothetical question does capture the general impressions which are influential in the buyer's decisions to utilize credit and compare credit sources. Fourth, the answers are of uniform quality since the respondents don't have to recall information over varying periods of time. Furthermore, comparisons between respondents and within respondents over time are facilitated by the elimination of the particular circumstances surrounding the individual purchases. In effect, by giving up an undetermined amount of external validity we have gained standardization.

For this hypothetical purchase the zones of correct estimates of terms were defined liberally, at least in light of the prevailing credit costs. The results shown below, when compared with the estimates of terms on an actual durable purchase (shown in Table 1) are notable for a much lower proportion of "don't know" responses, which in turn contributed to a tendency to understate rates and overstate finance charges.

		T1 (October 1970)	T2 (July 1971)
A. Estimates for APR			
Too low	(<13%)	45%	42%
Correct	(13-24%)	37	47
Too high	(>24%)	4	2
Don't know		14	9
		100%	100%
B. Estimate of Finance Charges			
Too low	(<$30)	3%	5%
Correct	($31-$60)	24	18
Too high	(>$60)	66	71
Don't know		7	6
		100%	100%
		(N=196)	(N=196)

The trends from T1 to T2 offer a surprising paradox; while the proportion correctly estimating the APR increased from 37 to 47 per cent, the proportion for finance charges dropped from 24 to 18 per cent. The latter shift is reflected more sharply by the mean estimate for finance charges which rose from $593 at T1 to $606 at T2. This represents a jump in the equivalent APR from 34 to 39 per cent.

Correspondence of APR and Finance Charge Estimates

One apparent reason for the paradox in direction of change in estimates is that consumers do not understand the arithmetic conversion between the APR and the finance charges for installment credit. Instead of dividing the principal by two before multiplying by the APR, many consumers simply multiply the principal by the APR. In effect they are treating the APR as a discount or add-on rate, as was the practice in the past. Thus as

knowledge of APR's improved between T1 and T2, and the extent of understatement declined, the already inflated estimates of finance charges rose even higher.

Supporting evidence for this hypothesis can be found in the degree of correspondence between the APR estimate and the actual versus adjusted estimates of finance charges converted to an equivalent APR. The adjustment simply divided the finance charge in half before the equivalent APR was computed.

Range of Correspondence	Proportion with finance charge estimate corresponding to APR estimate (n = 196)			
	T1		T2	
Within	Actual Estimate	Adjusted Estimate	Actual Estimate	Adjusted Estimate
±1%	1%	31%	1%	24%
±2	3	41	3	36
±4	3	47	4	41
±6	5	54	7	46

Regardless of the range of the finance charge estimate (up to ±6 per cent) there was virtually no correspondence with the APR estimate at either T1 or T2. But when the finance charge was divided in half, before being converted to an equivalent APR, up to half of the estimates corresponded. The degree of correspondence based on the adjusted finance charge estimate declined slightly between T1 and T2, suggesting that somewhat fewer respondents were using the incorrect procedure. Nonetheless a great deal of education is still necessary to correct this problem.

Measuring change in knowledge. A cross-tabulation of T1 and T2 responses (into Table 3) shows that the net changes revealed by the cross-sectional distributions seriously underestimate the total amount of change. In the case of APR, 25 percent of the sample were learners, and 15 per cent were forgetters, for a change by 40 per cent compared to the net improvement of 10 per cent shown in Table 1. Thus most changes in one direction were cancelled by changes of other respondents in the opposite.

The results for knowledge of finance charges were influenced by the decline in correct judgments. Underlying the six per cent net decline were 16 per cent forgetters versus 11 per cent learners, or some kind of change by 27 per cent of the sample. This is probably a substantial underestimate of the amount of true change for the broad correct and incorrect zones conceal many small shifts entirely within the zones.

The effect of credit experience on APR knowledge. The hypotheses that experience with credit would lead to a continuing of improvement in APR knowledge was tested by examining the effect of a credit purchase between T1 and T2 on the extent of learning and forgetting

	Did the Respondent Make a Credit Purchase Between T1 and T2?	
	Yes	No
Type of Change	(n=68)	(n=128)
Learning: proportion incorrect at T1 and correct at T2	.40 (n=40)	.40 (n=83)
Forgetting: proportion correct at T1 and incorrect at T2	.21 (n=28)	.51 (n=45)

Despite the small sample, there is clear evidence here that credit experience is important in retarding the forgetting of APR information, but has little or no incremental effect on the likelihood that people will learn the correct rate. That is, while people will continue to learn it does not appear that direct exposure to APR information at the time of purchase will make a significant contribution to this learning.

Forecasting long-run awareness. If the rows of Table 3A are standardized to sum to 1.0 the following matrix of transition probabilities is obtained:

		T2		
		Correct Estimate of APR	Incorrect Estimate	Sum
T1	Correct Estimate of APR	0.60	0.40	1.0
	Incorrect Estimate	0.40	0.60	1.0

According to this matrix the probability of forgetting between T1 and T2, given a correct estimate of APR at T1, is the same as the probability of learning, given an incorrect estimate. Since there were many more who gave incorrect estimates at T1 the number of learners between T1 and T2 exceeded the number of forgetters. If the same matrix of transition probabilities were applied to the distribution of responses at T2, which contains 47 per cent correct estimates, there should be more forgetters and fewer learners than between T1 and T2. Finally, at some point in time beyond T2, when 50 per cent of the sample are able to give correct estimates, the number of forgetters would equal the number of learners. Once this level of knowledge is reached no further improvement is possible. Since 47 per cent

of the sample were able to give a correct APR estimate at T2 the level of knowledge had, in effect, reached a ceiling or equilibrium.

Two crucial assumptions must be made before such a forecast can be projected to the rest of the population, or indeed, is even valid for this sample. The first is that the transition probabilities are the same in the rest of the population. This concerns both the internal validity of the measures and the representativeness of this sample; issues we have discussed earlier. Second, the probabilities of change are assumed to remain constant after T2. However, we have already seen that the probability of forgetting depends on whether or not the respondent made a credit purchase. Should the rate of purchasing per month increase among those who gave a correct estimate at T2, the average probability of forgetting would decline. Similarly, a vigorous educational campaign among those who gave incorrect estimates could increase the probability of learning. However, even if the true rate of learning were 20 per cent higher, and the rate of forgetting 20 per cent lower it can be shown that an equilibrium would occur when 60 per cent could make a correct APR estimate of between 13 and 24 per cent.[16] Thus it appears that unless significant changes occur in the environment, knowledge about APR's is unlikely to improve dramatically above the levels prevailing 25 months after TIL was implemented.

CONCLUSIONS

A fairly clear picture of the impact of TIL on knowledge of credit terms is beginning to emerge. A series of studies have found that consumer knowledge about APR's has risen dramatically, with the greatest gains among the more affluent, better educated and credit-experienced consumers.

Despite these gains the majority of consumers remain uninformed about interest rates. Moreover the present level of knowledge is quite unstable, with those consumers who become informed nearly offset by those who forget or become confused about credit details. Consequently further gains in knowledge are unlikely.

The level of knowledge of credit charges is even lower than for interest rates, and the prospects for improvement appear dimmer. Consumers consistently overestimated the credit charges for both actual and hypothetical purchases of durable goods. A major reason is a pronounced tendency to misunderstand the basic arithmetic relationship of the APR and the finance charge; apparently because the APR is treated as a discount or add-on rate.

The conditions surrounding the purchase situation play a much greater role in determining knowledge of charges than for rates. Socio-economic status is also important but the evidence indicates that consumers with lower incomes and less education are more likely to know the finance charges for a purchase. This may occur because lower-income families are forced to be more dollar-conscious. The dollar cost is more relevant to them than an interest rate figure, which they may not fully comprehend. The results showed that these same people were somewhat less informed about interest rates.

A firm understanding of credit rates and charges is a consequence of a lengthy and complex process for most consumers. Learning accumulates over time with continued exposure to relevant information. The simple act of using credit, even with disclosure of rates and charges, is not, however, a sufficient stimulus leading to immediate knowledge. This is more likely to come from educational campaigns on mass media directed at less-knowledgeable

segments, inclusion of annual percentage rates in advertising of credit plans and lending institutions, and disclosure of rates and charges before the actual purchase of major consumer durables.

FOOTNOTES

1. Consumer Credit Protection Act, Title 1, Section 102, May 29, 1968.

2. The major studies are reported in Lewis Mandell, "Consumer Perception of Incurred Interest Rates: An Empirical Test of the Efficacy of the Truth-in-Lending Law," Journal of Finance, December, 1971, pp. 1143-1153, the Board of Governors of the Federal Reserve System, 57th and 58th Annual Reports, Washington, D. C., and Robert P. Shay and Milton W. Schober. Consumer Awareness of Annual Percentage Rates of Charge in Consumer Installment Credit: Before and After Truth-in-Lending Became Effective, National Commission on Consumer Finance, Report No. 1, Washington, D. C., U. S. Government Printing Office, 1973.

3. George G. C. Parker and Robert P. Shay, "Some Factors Affecting Awareness of Annual Percentage Rates in Consumer Installment Credit Transactions," Journal of Finance (forthcoming).

4. This hypothesis is suggested by William C. Whitford, "The Functions of Disclosure Information in Consumer Transactions," University of Wisconsin Law Review (forthcoming).

5. A separate study by the authors to determine whether California families differed from those in other states revealed that California families were slightly younger and better educated. They tended to use credit more widely but awareness of rates and charges was similar to awareness levels across the nation (see George S. Day and William K. Brandt, A Study of Consumer Credit Decisions: Implications for Present and Prospective Legislation, National Commission on Consumer Finance, Report No. 2, Washington, D. C., U. S. Government Printing Office, 1973.) Shay and Schober, op. cit. found, however, that consumers in the Western region of the country were somewhat more knowledgeable about APR's.

6. The response rate for the baseline survey was 46%. A followup analysis of the non-interviewed households revealed that non-response biases were negligible. An evaluation of potential sampling error indicated a slight bias toward better educated and more affluent families.

7. Terry Deutscher, Credit Legislation Two Years Out: Awareness Changes and Behavioral Effects of Differential Awareness Levels, National Commission on Consumer Finance, Washington, D. C., U. S. Government Printing Office, 1973.

8. Robert W. Pratt, "Using Research to Reduce Risk Associated with Marketing New Products," in Reed Moyer (editor), Changing Marketing Systems, Chicago: American Marketing Association, 1967.

9. Lewis Mandell, op. cit.

10. Robert P. Shay and Milton W. Schober, op. cit. This study used the results of an analysis of minimum rates actually being paid nationally to determine the lower limit on the awareness zone.

11. The actual rate of interest was computed using the following formula:

$$r = \frac{2mI}{pn(n+1)}$$

where r = annual rate of interest
m = number of monthly payments
I = total finance charges over life of loan
p = principal of loan
n = number of monthly payments

The results closely approximate those found with a present worth formula (see Mandell, op. cit., page 1146).

12. Results are based on a cross-tabulation of the APR and finance charge data in Table 1.

13. See Parker and Shay, op. cit. and Mandell, op. cit.

14. David B. Montgomery, "A Note on Adjusting R^2," Journal of Finance (forthcoming).

15. Donald G. Morrison, "Upper Bounds for Correlations Between Binary Outcomes and Probabilistic Predictions," Journal of the American Statistics Association, March 1972, pp. 68-71.

16. This estimate of the stable-state proportion was obtained by: (a) transforming the turnover table of Table 3 into a matrix of transition probabilities, (b) changing the off-diagonal elements of this matrix from 0.40 to 0.32, and (c) treating this matrix as a discrete-time Markov model. For a similar application of this model to attitude change data, see George S. Day, "Using Attitude Change Measures to Evaluate New Product Introductions," Journal of Marketing Research, 7, November 1970, pp. 474-482.

Table 1

ESTIMATES OF INTEREST RATES AND FINANCE CHARGES CONVERTED TO APR FOR ACTUAL PURCHASE: CARS AND HOUSEHOLD DURABLES

Annual Percentage Rate	Cars Estimate of...		Household Durables Estimate of...		Total Estimate of...	
	Interest Rate[a]	Finance Charges	Interest Rate[a]	Finance Charges	Interest Rate[a]	Finance Charges
≤ 8.5	40%	10%	15%	7%	29%	9%
8.6-12.5	20	9	10	2	15	66
12.6-16.5	5	10	2	17	4	13
16.6-20.5	4	10	25	8	13	9
20.6-28.5	3	10	2	13	2	12
≥ 28.6	6	6	3	11	5	8
Don't know	22	45	43	42	32	43
	100%	100%	100%	100%	100%	100%
Number of cases[b]	(107)		(85)		(192)	

[a] The estimate of the APR was obtained from the following question:
Can you tell me the interest rate you are paying on the money you borrowed for the (ITEM?
(If DON"T KNOW, PROBE WITH): Well, just give me your best estimate. (ASK) Is that per year, per month, or just what?

[b] There were 232 credit buyers in total. However, eight per cent of car buyers (N=10) and 26 per cent of household durables buyers (N=30) included more than one item on their charge account or installment contract. Since estimating finance charges was difficult in such cases, these respondents are deleted from the distributions in Tables 1 and 2.

Table 2

CHARACTERISTICS RELATED TO KNOWLEDGE OF INTEREST RATES AND FINANCE CHARGES FOR ACTUAL PURCHASE: CAR AND HOUSEHOLD DURABLES

A) Knowledge of Annual Percentage Rates

Dependent Variable[a]: Correct Knowledge Rate = 1
Rate Is Not Known = 0

Independent Variables	Cars		Household Durable	
	B	t	B	t
Sex (female = 1)	-.18	1.82	-	
Bought to replace unusable item (yes = 1)	.16	1.33	-	
Race (minority = 1)	.21	1.37	-	
Dealer made credit arrangements (yes = 1)	.13	1.25	-	
Amount of debt ($100)	.003	1.16	-	
Monthly credit payments ($100)	.049	1.03	-	
Savings account (yes = 1)	.26	1.45	-	
Types of major assets (#)	.04	1.31	-	
Education (yrs.)	-	-	.04	1.82[c] (.05)
Income (>$10,000 = 1)	-	-	.11	1.00
Age (yrs.)	-	-	-.007	1.60
Monthly credit payments/ disposable income	-	-	-.51	1.72
Types of Credit Experience	-	-	.05	1.30
Enjoy Shopping (yes = 1)	-	-	-.17	1.56
Purchase price ($100)	-	-	-.024	1.65
Amount financed (>$2,000 = 1)	-	-	.79	1.29
Constant	.44		.20	
Adjusted R^2, F(d.f.)	.09	2.05(8,88)	.16	2.70(8,72)

[a]Correct awareness of rates includes estimate of 8 to 30 per cent for cars and 12 to 30 per cent for durables; not aware includes incorrect knowledge as well as "don't know" responses.

Table 2 continued

B) Knowledge of Finance Charges

Dependent variable[b]: Aware of Rate = 1
Not Aware of Rate = 0

	Cars		Household Durable	
	B	t	B	t
Shopped at store before (yes = 1)	-.20	1.82[c] (.05)	-.26	2.64[c] (.01)
Monthly credit payment on the purchase ($100)	-.105	2.27[d] (.05)	-.074	1.94
Own home (yes = 1)	-.22	2.08[d] (.05)	-.19	1.80
Amount of debt (<$1000 = 1)[c]	-	-	-.30	2.60[d] (.01)
Amount of debt (>$2000 = 1)	.16	1.48	-	
Shopped for sale/deal (yes = 1)	.13	1.33	.27	2.75[c] (.01)
Savings Account (yes = 1)	.20	1.30	-	
Race (minority = 1)	.22	1.60	-	
Amount financed (>$2000 = 1)	-.14	1.40	-.65	1.26
Enjoy Shopping (yes = 1)	-.11	1.10	-.17	1.54
Familiar with provisions TIL (yes = 1)	-	-	.31	3.16[c] (.01)
Attitude-using credit	-	-	-.25	2.55[d] (.01)
Income (>$10,000 = 1)	-	-	-.14	1.21
Income (<$ 6,000 = 1)	-	-	.21	1.27
Bought to replace unusable item (yes = 1)	-	-	.18	1.64
Education (<high school = 1)	-	-	.38	1.86[c] (.05)
Types of major assets (#)	-	-	.05	1.45
Constant	.55		.75	
Adjusted R^2, F(d.f.)	.12	2.27(9,87)	.35	3.85(14,66)

[b]Correct awareness of rates is based on the conversion of finance charges into an APR as in Table

[c]Variable is significant at indicated level using a one-tailed test (a directional hypothesis was formulated for this variable).

[d]Variable is significant at indicated level using a two-tailed test (there was no a priori directional hypothesis for this variable).

Table 3

CHANGES IN ESTIMATES OF INTEREST RATES AND FINANCE CHARGES FOR A HYPOTHETICAL PURCHASE

A. Annual Percentage Rates[a]

T1		T2: Correct	T2: Other	Total
	Correct (13-24%)	44	forgetters 29	73
	Other[c]	learners 49	74	123
	Total	93	103	196

B. Dollar Finance Charges[b]

		T2: Correct	T2: Other	Total
	Correct ($31-$60)	14	forgetters 33	47
	Other[c]	learners 22	127	149
	Total	36	160	196

[a] Change in knowledge significant at the .05 level (using Goodman-Kruskal Gamma).

[b] Change in knowledge significant at the .10 level (using Goodman-Kruskal Gamma).

[c] "Other" responses include "Don't Know's" and estimates which were too low or too high.