

270]. Although the consumer movement of the sixties and the seventies was rooted in dissatisfaction with the marketplace, measurement of satisfaction as an outcome of consumer education was not typically included in evaluation research.^a

REVIEW OF PREVIOUS RESEARCH

Traditional assessments of consumer education have included pretest-posttest quasi-experimental designs which measured the effects of consumer education in terms of knowledge gained, attitude change or by direct questioning on behavior in the marketplace. Most of the studies utilized student populations for which the effects were measured immediately following the completion of a consumer education course. In spite of the fact that consumer education is "education for living," few researchers sampled adult subjects who were active participants in the marketplace utilizing credit, buying homes and automobiles, and attempting to make rational decisions in an environment characterized by product proliferation and increasing market complexities.

Cognitive Change

Studies which measured cognitive change as a result of consumer education often found demographic variables such as age, mental ability, prior knowledge, and sex of the student to be significant predictors of consumer competency [14]. Carsky, Lytton, and McLaughlin [4] found major field of study and sex to be significant factors in assessing differential knowledge gains among university students enrolled in a consumer education course. Several studies utilized quasi-experimental designs and compared the change in consumer knowledge of students enrolled in consumer education courses to control groups of students not similarly enrolled. Bibb [2], Claar [5], and Thomas [28] found no differences in consumer competency. Waddell [29] found a weak effect in comparing two methods of consumer education instruction to a control group. Langrehr [13] reported significant differences in consumer economic competency among high school economics, consumer education, and control classes, with the consumer education class having the highest scores. Garman, McLaughlin, McLaughlin, and Eckert [8] compared university students enrolled in a consumer education course to a control group and found a significant difference in gain scores between the two.

The failure of several of these to demonstrate an effect of consumer education might have been due to several methodological issues. First, none of these studies were true experiments in the sense that there was no random assignment to either the

experimental or control groups so that differential results may have been due to individual characteristics as identified by Carsky, Lytton, and McLaughlin rather than to the effect of instruction. Second, it has been acknowledged [33] that consumer education in secondary schools does not attract the best students. Failure to find results may be due to student characteristics. Students placed in consumer education classes may possess the same mental ability as those not enrolled, but they may lack motivation and interest in the subject matter. Third, the use of closed end multiple choice and true false questions to test students might be measuring their reasoning ability more than their recall. Fourth, as instruction in any subject matter should be expected to result in some knowledge gain, the use of a pre/post test design to measure cognitive change when comparing students enrolled in a consumer education course to a control group might not be appropriate.

A study by Dickinson [6] to measure consumer awareness found statistically significant differences between adults who had previously enrolled in consumer education and those who had not. Although an η^2 of 0.07 indicated a weak effect, the finding of a positive outcome of consumer education in this study might be of greater practical significance and indicative of the pervasive influence of consumer education. This study differs from those previously discussed in that the instrument developed by Dickinson required recall rather than recognition for response, the sample was comprised of adults who were active in the marketplace, and those who had formal consumer education were not drawn from a recently completed class.

Attitude Change

Based on the results of several studies [4, 7, 8, 13], it could be concluded that attitudes toward the operation of the economy and the marketplace do change as a result of consumer education. However, findings on the direction of change have been inconsistent. Garman [7] using a modified Burton Opinionnaire (1970) found that attitudes of university students "changed drastically" and generally moved in the direction of those held by consumer advocates. In another study using the Lown Consumer Issue Attitude Inventory [17], Garman, McLaughlin, McLaughlin, and Eckert [8] found that students' attitudes on Information, Redress, and Public Policy, and Consumer Voice moved in the direction of the advocate position.

Carsky, et. al. [4] using the Lown Consumer Issue Attitude Inventory also reported that university students' attitudes changed following a consumer education course, but the direction of change was opposite that found by Garman. These students' attitudes moved toward agreement with the business position. This finding was not unique as Langrehr [13] using a Business Opinion Survey found that attitudes of high school students enrolled in a consumer education course while being more negative toward business on a pretest were more positive on a posttest than students who were enrolled in an economics course. Langrehr postulated that

^aAs much of the movement of the sixties focused on dissatisfaction, there might have been efforts to raise dissatisfaction levels through consumer education (ie. Johansson [18] postulated that consumers were satisfied because their aspirations were too low). Others indicated that consumer attitudes should move in the direction of the advocates [4].

the change toward pro business posture was the result of an understanding of how the economy operated and a perceived ability to use the system to their personal advantage. Langrehr suggested that "consumer education may be able to help these people learn how to use the marketplace to satisfy their needs.... and with this satisfaction, negative feelings towards the marketplace may be removed....."[13, p. 51].

Behavioral Change

Hawkins [10], finding no difference in marketplace behavior between individuals who had enrolled in a consumer education course and those who had not, concluded that there was no reason for instruction in this subject area. While this conclusion logically follows from the findings of the study, the research design and methodology may have attenuated the construct validity. Self reports on actions which clearly have "correct" responses are highly subject to demand artifacts. For example, it is "correct" to compare prices (reported by 92% w/consumer education and 96% w/o) and to read guarantees before the purchase (76.0% and 76.8%). The direct manner in which all questions were stated could easily lead to the responses given by either group. Furthermore, it is not known how many of those surveyed (two years after high school graduation) were active in the marketplace in terms of operating a household for which they were responsible for the financial management and procurement of goods. If the role of respondents had been controlled in the analysis, the conclusions might have been more valid.

A recent study on the socialization of elderly by Smith and Moschis [27] found that those who had previously enrolled in a consumer education course were more wary of advertising claims and less accepting of puffery. This study, though not designed to measure the effects of consumer education, found that it did make a difference in marketplace behavior.

Summary

Most of the research on evaluation of consumer education focused on assessing change resulting from consumer education immediately following the completion of a formal course. Many of these sampled high school students or college students and most of the studies measured cognitive gains by use of a pen and paper test. Is this methodology correct for an assessment of a program of study designed for "effective living?" Or might it be more appropriate to sample individuals who are "full participants" in the marketplace who may have had a consumer education course in their past? The studies reported which utilized students found either weak effects of consumer education or none at all. Two studies which used adults as the sampling frame found a positive effect. Dickinson using a slightly different methodology found that consumer education made a difference as did Smith and Moschis. As consumer education courses and topics have been incorporated in school curricula for fifty years, it would appear that the measurement of the effects of consumer education could be

obtained examining the behavior and motivations of adults interacting in the marketplace.

A CASE STUDY: THE EFFECTS OF IN-STORE INFORMATION PROGRAMS ON CONSUMER SATISFACTION

This study was designed to specify the relationship between the provision of consumer information programs and satisfaction with food marketing services and to identify factors which contributed to use of the information program. It was based on the rationale that consumers want and need information to aid them in making effective choices and that through the use of this information they will be more satisfied with their purchase decisions and with the shopping environment.

Methodology

A cross sectional survey design was incorporated into a store intercept study. The research was conducted at a warehouse foodstore where an in-store information program had been implemented one year earlier. The program, which focused on meats, provided three modes of presentation. Response to the program was measured by interviewing 277 shoppers. Respondents were asked about their use of the information presented, attitude toward the program, and perception of its usefulness.^b

A two part data collection instrument was developed. The first was self administered. Respondents were queried on satisfaction with the meat department and with the store. Attitude, interest, opinion items related to food shopping and meal preparation were included in this section. An interview format was utilized to obtain information on shoppers response to the information program, shopping habits, and demographic characteristics. The final question asked respondents if they had ever "taken a consumer education course?"

The data were analyzed to test the relationship between response to the in-store information program and satisfaction with the shopping environment measured in terms of meat purchasing, satisfaction with the meat department, and with the store. Analyses were also conducted to identify factors which contributed to positive or negative response to the program. The response was measured by indicators for use of the program, attitude toward the program and perception of its usefulness. Cut scores were used to differentiate between positive and negative respondents on the indicators.

Results

The sample size of 277 was consistent with previous studies on shopping behavior which reported

^bAs the program materials were developed by the supermarket chain, they were evaluated for accuracy, completeness, appropriateness and lack of bias by two independent judges considered to be experts in the field of nutrition.

an average sample size of 200 [16, 19, 20, 26]. The respondents represented households of one to ten persons; the average household size was 4.1. The majority of the respondents were female (n = 242) and 245 (88.4%) were married. The largest number (n=93) were between the ages of 25 and 34 years. The demographic characteristics were parallel to those of warehouse shoppers described by other studies [11, 15, 21]. The average food budget was \$100.00 per week, and the average food bill of the respondents on the date of the interview was \$90.98.

Shoppers who responded positively toward the program were contrasted with those whose responses were negative. Results of independent samples t-tests were statistically significant at $p < 0.05$. Those who responded positively purchased more meat and were more satisfied with the meat department and with the store.

Discriminant function analyses to identify predictors of response to the information program indicated that Meat Purchasing, Meat Satisfaction, and Store Satisfaction could not explain and correctly classify positive and negative responders. Demographic and psychographic variables were entered into the analyses to identify antecedents of exposure to the program which might have moderated the responses. The demographic variables included age, level of education, occupation, occupation of spouse, length of time (years) the respondent had patronized the store and whether the respondent had enrolled in a consumer education course. Psychographic variables included the propensity of an individual to seek out information, preferences for meat, and management skills related to acquisition and preparation of foods.

The propensity of an individual to seek out information (INFOSEEK) and previous enrollment in a consumer education course (CNSRED)^C were identified by the discriminant function analyses as antecedent variables that could explain variations in attitude and perception of usefulness of the program and consequent differences in levels of satisfaction. The addition of these variables to the equations resulted in raising the minimum D squared for attitude toward the program from 0.989 to 2.160 and raising the minimum D squared for perception of usefulness from 2.958 to 3.087. The discriminant function equations representing the best set of variables to explain differences in attitude and perception of usefulness were:

$$D = 0.398_{MP} + 0.518_{SS} + 0.679_I + 0.353_C \quad (1)$$

(attitude)

$$D = 0.304_{MS} + 0.625_{SS} + 0.584_I + 0.186_C \quad (2)$$

(usefulness)

where:

MP = Meat Purchasing; MS = Meat Satisfaction; SS = Store Satisfaction; I = INFOSEEK; C = CNSRED

^CForty-two (15%) of the 277 participants in the study had previously enrolled in a consumer education course.

The ultimate measure of the effects of an information program is in its use by the intended audience. Results of the t-tests indicated that shoppers who used the information were more satisfied with the shopping environment than nonusers. Four antecedents were identified which contributed to use or nonuse of the information program. In addition to INFOSEEK and CNSRED, attitude toward the information and perception of its usefulness were found to be significant predictors. The addition of these four variables resulted in raising the D squared for use of the information from 0.441 to 1.459. The discriminant function equation for use of the information program was:

$$D (\text{use}) = 0.480_{MP} + 0.770_{SS} + 0.277_I + 0.260_C \quad (3)$$

$$+ 0.203_A + 0.570_U$$

where:

MP = Meat Purchasing; MS = Meat Satisfaction; SS = Store Satisfaction; I = INFOSEEK; C = CNSRED; A = Attitude toward the program; U = Usefulness of the program

Discussion

The results of this study indicated that the provision of a consumer information program can result in increased satisfaction among shoppers who are favorably disposed to the program. Those who possessed a positive attitude toward the program, perceived it to be useful, and used the information purchased more meat at the store, were more satisfied with the meat department and with the store.

In identifying the factors that contributed to response differences, the results indicated that previous enrollment in a consumer education course and the propensity to seek out information were associated with attitude toward the program and the perception its usefulness. These two antecedent variables moderated satisfaction with the shopping environment.

In addition to enrollment in a consumer education course and information seeking behavior, attitude toward consumer information and perception of the program's usefulness were found to contribute to respondents' use of the information provided. Although the data did not indicate that a consumer education course was requisite to use of the information program and consequent higher satisfaction levels, not having been enrolled in a consumer education course was identified as a significant variable in explaining negative response to the information program and lower levels of satisfaction with the shopping environment.

This study was based on the premise that consumers want and need information in order to make informed choices and that more informed choices result in greater consumer satisfaction with the marketplace. Consumer education through its emphasis on "information acquisition" can be of benefit in terms of giving individuals the tools and appreciation for information available in the marketplace and resulting higher satisfaction

through informed decision making. Respondents in this study who had been enrolled in a consumer education course at some time prior to the interview were more satisfied with the marketplace. Thus, the study provided some evidence to support the need for consumer education as "education for living" in that it contributes to long run satisfaction with the marketplace.

CONCLUSIONS AND RECOMMENDATIONS

The benefits of consumer education have been questioned because of failure of evaluation studies to demonstrate cognitive, affective, or behavioral change. This failure might have been more aptly associated with the methodology of the studies than with consumer education as a course of study. In the case study described, perception of the usefulness of a consumer information program (a cognitive measure), attitude toward the consumer information program (an affective measure), and actual use of the information (a behavioral measure) were found to be associated with enrollment in a consumer education course.

Although the study on the effects of in-store information programs on consumer satisfaction was not designed to measure the effects of consumer education, the addition of one question ("Have you ever taken a consumer education course?") enabled an analysis to provide evidence of the benefits of consumer education. This single question did not examine the characteristics of the course taken, and there was no effort to determine what might be a preferable mode of consumer education delivery for maximum effectiveness. The evidence available from this one study suggests that exposure to the concepts of the subject matter and the ambiance of consumer education may have a long term effect on market behavior. The topical content, perspective, educational level or other characteristics of the course may not be critical to its effect. Querying consumers in the marketplace on previous educational experience in this subject area could contribute to an awareness and appreciation of the long range benefits of consumer education.

Based on this finding, it is recommended that studies on consumer behavior and satisfaction in the marketplace include one item in this regard. The inclusion of questions on previous consumer education experiences in multiple consumer behavior research studies could help to build an understanding and awareness of the pervasive effects of consumer education. The additive effects of multiple studies could contribute to the justification for encouraging enrollment by all students in consumer education courses.

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DISCUSSION OF PAPERS ON CONSUMER EDUCATION

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ABSTRACT

One study describes the effective use of retiree volunteers to extend consumer education to the elderly. Two studies suggest that documentation of the benefits of consumer education should include an analysis of consumer actions and satisfactions in the marketplace.

Individually and collectively, these papers add new insights to help improve the quality and effectiveness of consumer education. My comments will focus on some concerns and suggestions aimed at strengthening our understanding of what we have yet to learn about the design, delivery, and assessment of consumer education programs.

EDMONDSON AND FORGUE

All consumer education programs have costs as well as benefits. "Retirees as Volunteer Consumer Educators" is a refreshing adaptation of the Cooperative Extension Service model of extending consumer knowledge and skills in a relatively low-cost manner through the use of volunteers.

Within its modest framework, the project seems to have had some success in terms of measurable benefits to the retiree volunteers and acceptance by social service providers.

I would like to know more about how retiree volunteers were selected to work in the consumer economics specialty area. What criteria was used in choosing one volunteer over another? Were any specific qualifications required? Could this model work in communities where there are no retired university faculty and administrators?

I would like more information about training the volunteers. The conclusion cites the need for more individualized instruction, but few details of the training are given. What concepts and topics were addressed in the training? Did anyone ask the study's target consumers, elderly social service program clients, about their specific educational needs regarding their consumer affairs?

Considering the varying levels of content knowledge and teaching abilities of the retiree volunteers, why were volunteers asked to prepare and share lesson plans? Another approach would be to have Extension Specialists prepare model outlines that could be adapted by the volunteers to meet target consumer needs.

What evidence is there that social service providers needed and wanted consumer content update? To what extent do social service providers routinely pass along newly acquired consumer information to their clients?

Whether this project will benefit ultimate consumers is conceded by the authors to be the "major unknown." Fortunately, the authors promise follow-up studies in this area if funds are available.

PERSHING

"High School and College Students' Consumer Actions: Implications for Consumer Education" suggests that the benefits of consumer education may not be evident until an opportunity occurs to apply previously learned consumer knowledge and skills in the marketplace.

Traditional tools such as pre- and post tests of cognitive learning may not tell the full story as to the long-term benefits of consumer education. To further complicate research in this area, Pershing reminds us that many factors in addition to education affect consumer action. These include age, sex, lifecycle, need for and availability of information, family, media, maturity and experience. (In a somewhat related list, Carsky and Mitchell suggest additional variables: student's mental ability, motivation, and prior knowledge.)

In the literature review, the author summarizes the work of Hawkins, Langrehr, Miselwitz, Stanley, and Thomas by stating, "These studies reported that consumer education did not increase consumer competencies." This may be a misleading and potentially harmful generalization when viewed as a collective summary of the five research studies cited.

Another concern I have with the paper is the assumption that a survey which focuses largely on consumer purchase behavior could measure the effectiveness of high school consumer education courses in a variety of subject areas. Were the high school course outlines analyzed in any way prior to assuming that these courses could and did affect consumer behavior that occurred sometime later? For example, do we know whether or not consumer purchase concepts were even among the competencies taught, especially in economics, business and the social studies?

In my opinion, the research design must include an analysis of specific concepts taught in a given consumer education setting linked with specific marketplace behaviors observed before we can begin to generalize about the benefits and effects of consumer education.

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Nonetheless, the paper makes an important contribution because it underscores the need for research that documents the long-term effects of consumer education on consumer actions. To paraphrase, the author seems to be saying, "Don't measure what consumers say, measure what consumers do." Do not rely on cognitive post tests alone to measure effectiveness, look at marketplace behavior as well.

CARSKY AND MITCHELL

This provocative paper titled "A New Assessment of the Benefits of Consumer Education" clearly states what few of us want to acknowledge, that consumer education is in jeopardy in the nation's schools. One reason for this unfortunate situation, say the authors, is the failure of evaluation studies to demonstrate cognitive, affective, or behavioral change as a result of consumer education.

Moving quickly from this gloomy, downright pessimistic view, the authors suggest that the benefits of consumer education may be more pervasive than generally recognized. This fact could be documented, the researchers contend, if we could measure its effectiveness in terms of consumer satisfaction.

Not until reading the case study on the effects of in-store information on consumer satisfaction did I realize that this paper has two distinct parts. One part is a stand-alone review of previous research in consumer education; the second is a report of a study of consumer information use at the point of sale. The relationship between the two parts is somewhat tangential rather than direct.

It is puzzling why the authors chose to title their paper "A New Assessment of the Benefits of Consumer Education" when they clearly state that their study was not designed to measure the effects of consumer education. The single question, "Have you ever taken a consumer education course?" did not prove anything about the long-term benefits of consumer education. Having a previous course in consumer education is one of many factors which may help shape a positive attitude about a food store's consumer information program.

While the study provides some evidence that prior consumer education helps consumers achieve greater satisfaction in the marketplace, it simply fails to deliver what the title of the paper promises.

The important contribution of this paper however, is not its title, but rather the fact that it points to the growing need for research that is carefully designed and meticulously executed to measure the benefits of consumer education.

SUMMARY

I commend Edmondson, Forgue, Pershing, Carsky, and Mitchell for sharing their work with ACCI. They have called our attention to the need to measure consumer education's effectiveness by analyzing relationships between concepts taught and behaviors observed.

Without reliable data, consumer education is likely to continue to be in jeopardy. With convincing documentation however, we can improve the quality of consumer education and measure its long-term benefits. Only then will consumer education take its rightful place in the educational mainstream of the nation's schools and communities.

KNOWLEDGE, ATTITUDES, AND PRACTICES
IN THE USE OF CREDIT

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ABSTRACT

The purpose of the study is to investigate the relationships among knowledge of credit, attitude toward credit, and credit practices. The data were collected in Marshalltown, Iowa, during the winter of 1982 through 201 personal interviews with household money managers. The analyses include correlation and path analysis using LISREL. There is a positive relationship between knowledge of credit and attitude toward credit. The more knowledge the consumer has about credit and the more positive the consumer's attitude toward credit, the more the consumer uses credit. Knowledge of credit is positively related to the education of the money manager, household size, and household income. Attitude toward credit is positively related to household income. Education has an indirect effect upon attitude toward credit and upon credit practices through the level of knowledge about credit.

The purpose of the study is to investigate the relationships among knowledge of credit, attitude toward credit, and credit practices. Previous studies have investigated the relationship between knowledge of credit and credit practices and/or the relationship of attitude toward credit and credit practices. However, studies have not included all three variables and analyzed the relationships among the three.

Garcia [9] states that the direction for future research about credit cards is to examine the determinants and implications of credit card use, not in isolation but as part of a more general theory of consumer behavior. This study attempts to analyze credit usage in a more general framework than has been done in past studies.

PREVIOUS RESEARCH

Credit Practices

Most studies involving credit have been primarily descriptive, indicating who uses credit, what items are purchased with credit, how frequently credit is used, and consumer's knowledge of credit costs [3,8,19,31,32,34]. Mueller [29] investigated the relationship between money management practices including credit and the family debt-to-income ratio.

Household size was found to be positively related to installment credit use in studies by Ryan and Maynes [36], Dunkelberg and Stafford [6] and Richards [33]. Several studies have found a negative relationship between age of the household head and credit use or financial management [1,11,15,18,19,

26,27,29,35,36,37,39]. Younger households have more demands on resources and less experience managing money.

Numerous studies have indicated a positive relationship between education and financial management practices or credit use (1,5,10,11,13,18,19,20,29,33,34). Income is related to credit use. Lower- and middle-income families tend to have more experience with loans and current credit card use than higher-income families [1,19,27,36,37].

The greatest proportion of consumers who are in deep debt trouble are unmarried, the poor, the uneducated, those under 25 or 65 and older, and young families with young children [14,22,27,28,36,39].

Credit Knowledge

A large proportion of consumers do not appear to have an understanding of the credit market. Education and income are key determinants of knowledge and understanding of consumer credit [2,7,13,22,26,30,39]. It appears that high income and highly educated consumers are more likely to know about credit than are low income and consumers with less formal education.

There is some relationship between knowledge and current credit use. Consumers with more knowledge about credit, use credit to a greater extent than consumers with only a little knowledge about credit [5,19,37].

Attitude Toward Credit

The studies that include attitude toward credit as a variable usually measure it in a dichotomous form - favorable or not favorable. People with more favorable attitudes toward installment debt use more installment credit [1,5,7,12,17,26]. Upper income consumers hold more favorable attitudes toward credit than do lower income consumers [38,40]. Younger consumers have more positive attitudes toward credit use than do older consumers [26]. Mandell [26] found that the more highly educated consumers approve of the use of credit more than do those with less education.

Mueller [29] explored attitude in terms of the amount of debt a consumer is willing to owe. Households who are willing to owe larger amounts of money on credit cards have a higher level of debt.

SAMPLING AND DATA COLLECTION

The data were collected in Marshalltown, Iowa, during the winter of 1982 through 201 personal interviews. Completion of the personal interviews required an average of 45 minutes, with a range of 15

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minutes to 90 minutes.

An area sample of housing units in Marshalltown was drawn by the Iowa State University Statistical Laboratory. According to this procedure, any household in existence at the time of the study has a known chance of being in the sample regardless of whether it was included in the census numbers or a city directory. Marshalltown is 50 miles northeast of Des Moines, and it has a population of 27,000. A diversified sample could be attained from Marshalltown due to its size and its varied industries.

The unit of analysis is the household. The final sample included 198 cases. The information was obtained from the money manager of the household. Interviewers were instructed to ascertain which person in the household was the money manager by asking "who manages the money in the household?" and to conduct the interview with that individual. If the respondents were married and indicated money management responsibilities were shared then both were interviewed, and the person answering the majority of the questions in the schedule was considered to be the money manager.

HYPOTHESES

Figure 1 illustrates the analytical model that is proposed for this study. It also indicates the direction of the relationships that are hypothesized. A positive relationship is expected between

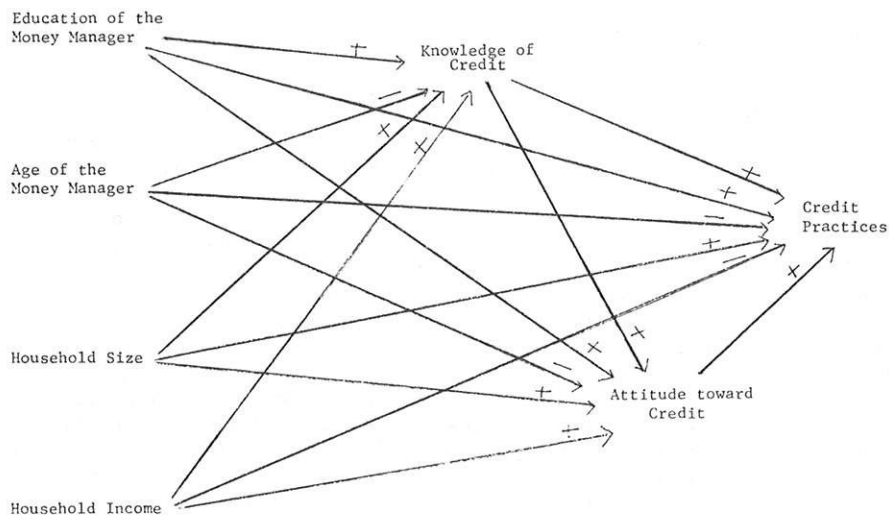
with more knowledge about credit will have a more positive attitude toward credit than do those with little knowledge about credit. It is expected that money managers who are younger and have more years of education use credit to a greater extent than do those money managers who are older and have few years of education. It is hypothesized that large households and households with low income use more credit than do small households and those with high incomes. Money managers with more knowledge about credit and a more positive attitude toward credit will use more credit than do those money managers with less knowledge and a less positive attitude toward credit.

VARIABLES

Figure 2 presents the proposed model in LISREL form. It includes both the structural and measurement models. Following standard practices, latent constructs are diagrammed as ovals and observed measures as rectangles [21,23,24].

There are seven knowledge-of-credit questions that are randomly assigned to the two indicators of knowledge of credit. The questions in the first indicator include the following topics: consolidation loans, amount of income used for credit, credit rating, and the annual percentage rate on retail store revolving charge accounts. Credit card interest plans, federal legislation, and interest compounding are the topics for the second indicator.

FIGURE 1. A path diagram for the proposed analytical model.



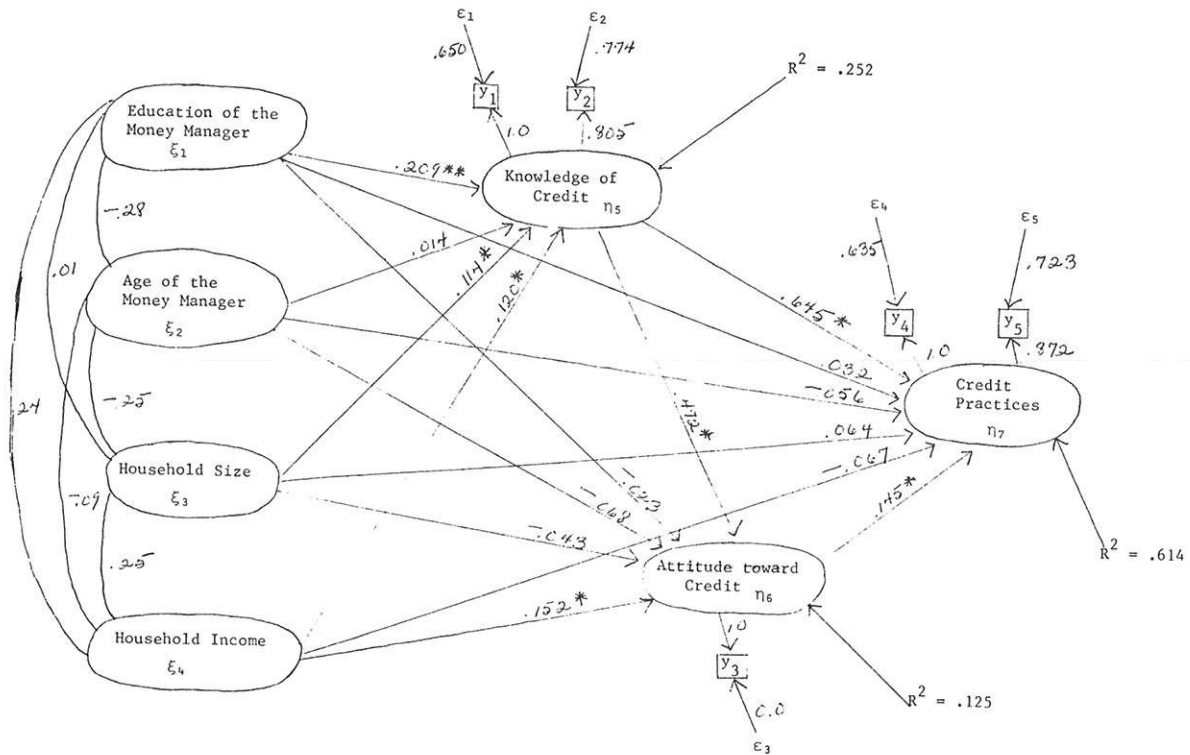
education of the money manager, household size, and household income and knowledge of credit. A negative relationship is predicted between age of the money manager and knowledge of credit.

The respondents with higher education are expected to have a more positive attitude toward credit than are those respondents with lower education. Young money managers, large households, and those households with high incomes are expected to have a positive attitude toward credit. Money managers

The knowledge questions are dichotomous (0 represents answers that were not correct and a 1 represents answers that were correct). As a result, the first knowledge indicator ranges from 0 to 4 and the range of the second indicator is from 0 to 3. The mean of the first indicator is 2.9; the mean of the second indicator is 1.7.

The attitude-toward-credit question includes how much the household feels comfortable owing on all credit cards at one time. The range of responses

FIGURE 2. Proposed Model After Estimation.



* = t-value ≥ 2 , ** = t-value ≥ 3 ; R^2 for entire model = .326

is from 0 to \$5,000; the median is \$100 and the mean is \$346.

The credit-practices variable also has two questions that are used as two indicators of the concept. The first indicator is the number of credit cards that household members use. The range for this question is from 0 to 24; the mean and mode are 2. The second indicator is the frequency with which the household pays finance charges on credit card accounts because the bill has not been paid in full. The scale for this question is never to always. The mean and median fall within the category of "sometimes."

The four exogenous variables in the model are education of the money manager, age of the money manager, household size, and household income. Education ranges from 4 to 20 years of education; the mean is 12.8 years. The age of the money manager ranges from 19 to 87. The mean age is 45.4 years old. The mean of household size is 2.6. The range of household size is from 1 to 8.

To ascertain the net income of the household, the money manager was asked to indicate the approximate net dollar income received by all members of the household in 1982. The figure includes the following sources: wages, salaries, investment income, business or farm income, social security, retirement payments, and child support payments.

ANALYSES

The analysis is done by applying LISREL V (Linear Structural Relationships) to a correlation matrix [21]. Essentially, LISREL unites factor analysis and structural equation modeling. LISREL compares the observed matrix of variances and covariances or the observed matrix of correlations to the estimated matrix generated by the model and asks if they "match."

LISREL is a general computer program for estimating the unknown coefficients in a set of linear structural equations. The variables in the equation system may be either directly observed variables or unmeasured latent variables which are not observed but related to observed variables. The computer program is based on a general model which is designed to handle models with latent variables and measurement errors.

In its most general form the model assumes that there is a causal structure among a set of latent variables. The latent variables appear as underlying causes of the observed variables. The LISREL program produces estimates of the various coefficients in the model, computes their standard errors, and calculates a goodness-of-fit statistic between the variance-covariance matrix or the correlation matrix implied by the model and that observed in the sample [23,24].

FINDINGS

Correlations

Table 1 indicates the Pearson Product Moment Correlations for the variables in the model. Only the significant correlations will be discussed here.

The two knowledge of credit indicators are positively correlated (.28). The two credit practices indicators have a correlation of .32.

the number of credit cards used also increases. Younger money managers and larger households more often pay finance charges on credit cards. The older money managers are less educated and have smaller households. The higher the household income, the larger the household size.

Path Analysis

The correlation matrix from Table 1 is the input matrix to the LISREL V program. Each correlation

TABLE 1. Pearson Product Moment Correlation Matrix

	1	2	3	4	5	6	7	8	9
1. Knowledge (1)	1.00								
2. Knowledge (2)	.28***	1.00							
3. Amount Household Feels Comfortable Owing	.21**	.12	1.00						
4. Number of Credit Cards	.29***	.17*	.20**	1.00					
5. Frequency of Paying Finance Charges	.24**	.19**	.29***	.32***	1.00				
6. Education of the Money Manager	.15*	.32***	.14*	.27***	.14	1.00			
7. Age of the Money Manager	.01	-.21***	-.10	-.02	-.23**	-.28***	1.00		
8. Household Size	.20**	.03	.08	.10	.20**	.01	-.25***	1.00	
9. Household Income	.21**	.15*	.23**	.18*	.07	.24***	-.09	.25***	1.00

***p<.001
**p<.01
*p<.05

When the money manager has a high score on the first indicator of knowledge, the household feels comfortable owing more on credit cards at one time. With a high score on the first indicator of knowledge, the household also has a greater number of credit cards it uses, the household size is larger, the household income is larger, and the education of the money manager is higher.

When the score for the second indicator of knowledge is high, the household uses more credit cards, pays finance charge payments more frequently, has a higher household income, and the money manager has a higher education. However, the older the money manager is the lower the money manager's score on the second indicator of knowledge.

As the amount the household feels comfortable owing on all credit cards at one time increases, the number of credit cards used increases, the frequency of finance charges paid increases, the household income increases, and the education of the money manager is higher. As the number of credit cards used increases so does the frequency of paying finance charges.

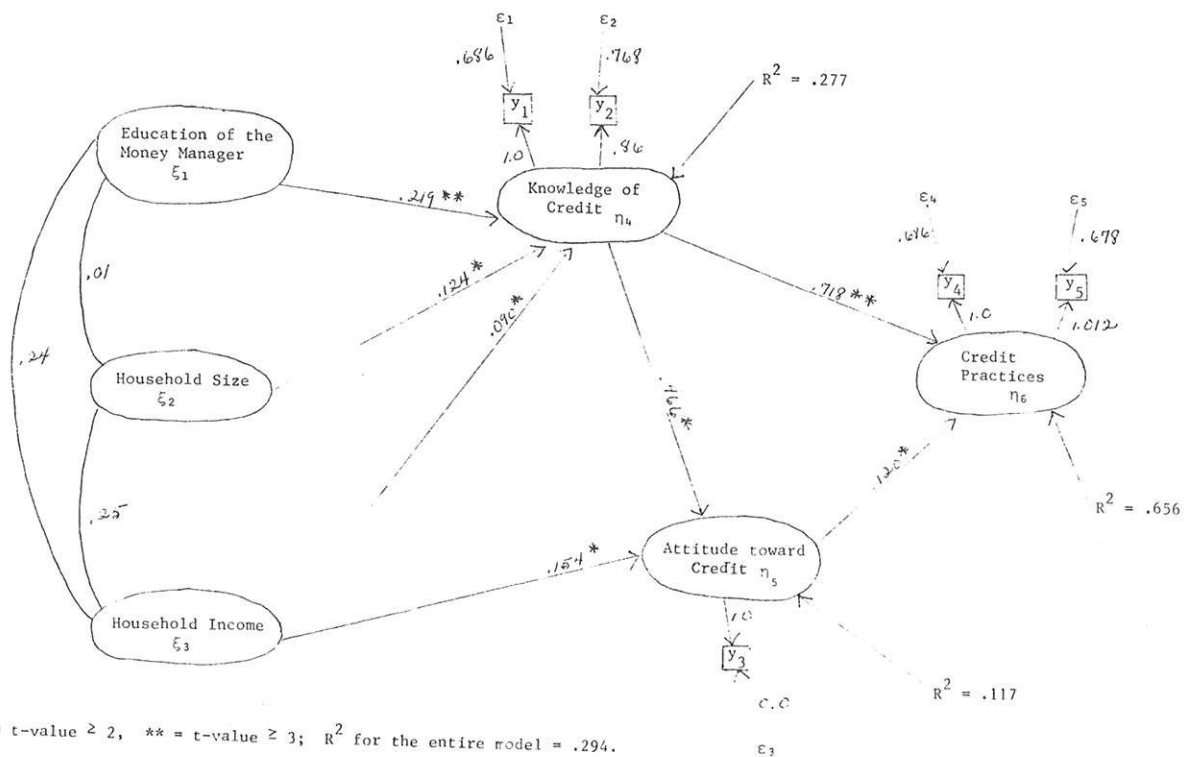
As the education of the money manager increases,

coefficient is based on 198 cases. On the basis of Pearson correlations, Figure 2 presents the standardized maximum likelihood parameter estimates for the proposed model.² This initial iteration produced a model with $X^2=35.82$, $df=11$, $p=0.000$. The value of X^2 relative to the degrees of freedom, indicates that the proposed model did not fit the data well. The difference between the observed correlation matrix and that resulting from the hypothesized model was statistically significant.

The accepted procedure in such a situation is to iteratively relax constrained parameters which cause stress in the fit. This procedure is effectively the same as fitting a less restrictive model. As each constraint is relaxed, the X^2 associated with the model will decrease. At the same time, the degrees of freedom will decrease. Figure 3 presents the standardized maximum likelihood parameter estimates for the reduced model. The estimates in this reduced model are discussed here.

Age of the money manager was eliminated from the reduced model because there were no significant paths to any of the endogenous variables in the fully recursive model. Education of the money manager, household size, and household income are

FIGURE 3. Reduced model after estimation.



significantly related to knowledge of credit. Those variables predict 27.7 percent of the variance of knowledge of credit. The lambda value of the first indicator of knowledge is 1 and the lambda value for the other indicator is 0.86. This fact means that the two indicators of knowledge of credit have a similar impact in explaining knowledge of credit.

One of the features of a LISREL model is that it can separate the true score variance from the error variance. The true score variance is the proportion of variance explained by the observed variable. The error variance is the sum of the specific (unique) variance not accounted for by the latent concept plus random variance due to measurement error.

The true score variance for the first indicator of knowledge is 0.314, and it is 0.232 for the second indicator of knowledge of credit. The error variance for the first indicator of knowledge is 0.686; it is 0.768 for the second indicator of knowledge of credit. The fact that the error variance is high is an indication that there is still work to be done to perfect the measurement of the concept.

Household income is the only exogenous variable that is significant for attitude toward credit. There is a significant relationship between knowledge of credit and attitude toward credit. The beta weight is 0.466. The R^2 for attitude toward credit is .117. Only one indicator is used for attitude. Because there is only one indicator of the concept, the true score variance is 1.0 and the error variance is equal to 0.

Two indicators are used to measure credit practices. The frequency of payment of finance charges has a value of 1 and the number of credit cards used has a value of 1.012. These results indicate that the number of credit cards used by the household explains slightly more about credit practices than does the frequency of payment of finance charges. The true score variance for the frequency of finance charge payments is 0.314 and for the number of credit cards used, it is 0.322. The error variance for the former indicator is 0.686, and for the latter indicator, it is 0.678.

There are significant paths from knowledge of credit practices and from attitude toward credit to credit practices. The R^2 for credit practices is 0.656.

The total coefficient of determination for the structural equations is similar to an index of the amount of variation explained in the total model. It is analogous to a cumulative or overall R^2 . The total coefficient of determination for the structural equations in this model is 0.294.

Only the direct effect of the antecedent variables on the dependent variable in the path model are depicted in Figure 3. The decomposition of the total effects into the direct and indirect effects indicated that although many of the exogenous variables did not have direct effects upon attitude toward credit or credit practices, there are indirect effects.

There is an indirect effect of education of the money manager (0.102), household size (0.058), and household income (0.042) upon attitude toward credit that is mediated through knowledge of credit.

There is also an indirect effect of education of the money manager (0.170) and household size (0.096) upon credit practices that is mediated through knowledge of credit.

Income (0.088) indirectly affects credit practices through both knowledge of credit and attitude toward credit. Knowledge of credit not only has a direct effect upon credit practices (0.718) but knowledge of credit (0.056) has an indirect effect upon credit practices that is mediated through attitude toward credit.

Goodness-of-fit Measures

Having examined the parameter estimates, one needs to assess the extent to which the proposed model fits the data. Several measures of goodness-of-fit were used (Table 2).

TABLE 2. Measures of Fit

	Full Recursive Model df=11	Reduced Model df=14
χ^2	35.820	22.920
Probability	0.000	0.062
χ^2/df	3.256	1.637
CN	126.958	221.081

According to the likelihood ratio, neither the fully recursive nor the reduced model fit the data well. With 11 degrees of freedom, the probability of the fully recursive model is zero and with 14 degrees of freedom, the probability of the reduced model is slightly above zero (0.0620). Given that the likelihood ratio test is very sensitive to sample size, a more appropriate fit index would be one that is not affected by the sample size.

The relative likelihood ratio, the ratio between χ^2 and its degrees of freedom (ie., χ^2/df), partially offsets the impact of sample size. Ratios of approximately 2 to 1 or 3 to 1 are considered indicative of an acceptable fit [4]. Applying this criterion, the fully recursive model has a ratio of 3.256 indicating a better fit is possible, but the reduced model has a ratio of 1.637, indicating an adequate fit.

The goodness-of-fit of the models was also evaluated by applying Hoelter's critical N or CN [16]. This measure is based on determining the sample size required to accept statistically a model at a certain specified level of significance. When only one group is involved in the analysis, a CN of 200 or more is indicative of an adequate fit. The CN for the fully recursive model is 126.958 which indicates the model does not fit the data well. However, the CN for the reduced model is 221.081 which is more than adequate. Using the results of these goodness-of-fit measures, it is clear that the reduced model suggests a successful fit between the

proposed causal structure and the observed correlation matrix.

SUMMARY AND CONCLUSIONS

The findings of this study indicate a positive relationship between knowledge of credit and attitude toward credit, between knowledge of credit and credit practices, and between attitude toward credit and credit practices. Four exogenous variables were initially included in the model: education of the money manager, age of the money manager, household size, and household income.

Since the four endogenous variables previously had not been investigated in one model, a fully recursive model was first analyzed. After several constraints were relaxed and after using several goodness-of-fit measures, it was determined that the reduced model fit the data well. Age of the money manager did not have a significant path to any of the endogenous variables in the fully recursive model, so it was dropped from the reduced model.

Education of the money manager, household size, and income had significant paths to knowledge of credit. Household income also had a significant path to attitude toward credit. None of the exogenous variables were significantly related to credit practices. There were, however, some indirect effects upon attitude toward credit and credit practices.

More research is needed that investigates the causal relationships among knowledge of credit, attitude toward credit, and credit practices. Different indicators might be utilized for each of the endogenous variables to see if similar results are obtained.

Findings of this study might be of interest to financial counselors and educators. The results suggest some emphases to include in programs. Household financial management practices and in particular, credit practices, are very important in the determination of the financial status of households. Increasingly, more and more consumer transactions have some involvement with credit. As a result, financial counselors and educators have seen that households with similar resources can have different financial statuses, depending upon their credit practices.

The purpose of financial counseling is to improve the financial practices that have caused the client problems, and the purpose of the financial management courses is to develop practices that will prevent such problems. It is essential, then, for those professionals to know what factors influence credit practices.

Results of this study provide some information in that regard. It is concluded that credit practices are influenced by knowledge of credit. By increasing knowledge on various aspects of consumer credit, credit practices can be improved. According to these results, increasing the knowledge level not only will influence credit practices, it will also,

in turn, effect the attitudes toward credit.

In addition, an individual's attitudes toward credit influence credit practices. Educators and counselors might take note that their educational efforts and materials should emphasize attitude development and attitude change. Just providing knowledge will not be enough to influence credit practices.

Financial counselors who work with families in crisis situations can utilize this information, as well. Understanding clients' attitudes toward credit might be helpful in developing credit repayment plans. The success rate of their counseling efforts will be affected by the extent to which they help the client sort through their attitudes toward credit.

The results also suggest some groups in which to target programs. There is evidence from this study that indicates that they might be targeted at individuals who have low levels of education and who come from low income households.

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CONSUMER CREDIT USE AND AGE:
AN ANALYSIS OF THE EFFECTS OF PRERETIREMENT

Helen H. Jensen and Sandra W. Reynolds¹

ABSTRACT

The selection and use of credit by households with heads age 55-64 provides information on how consumers make financial decisions to the traditional retirement period. The analysis examines the effect of sociodemographic, economic, and attitudinal variables on open-end and closed-end credit use. The significance of factors affecting credit use depends on the type of credit. Those 50-65 differ from those over 65 only in the use of closed-end credit.

Changing population trends and an increase in the number of older citizens have led to increased research on the economic behavior and levels of well-being of the elderly. However, relatively little attention has been paid to the preretirement period and whether these consumers' planning and adjustments are consistent with the economic models of savings and dissavings over the life cycle. This study investigates the economic choice of household heads 55-64 years of age, in particular the choice of whether or not to use credit.

Credit allows consumers to move resources from one time period to another. Thus, understanding of credit behavior provides evidence on a household's willingness to trade off income among periods. For those facing retirement, this indicates preference for willingness to incur financial obligations which may last into the future, retirement years. This study evaluates credit use in the context of sociodemographic, economic, and attitudinal variables. The study is based on the data from the Federal Reserve's 1977 Consumer Credit Survey [4]. It is important to note that many of those who were in preretirement in 1977 are retired today. Those directly advising consumers should benefit from better knowledge of factors associated with credit use as they assist in planning for the future; future expectations bear heavily on present actions.

BACKGROUND

Many of the studies of the role of credit in household decision-making date back to the work of Fisher (1930). The household is able to increase its set of opportunities by trading resources between periods. Borrowing increases present resources; lending or saving increases future resources[10]. Patterns of inter-temporal

exchange of resources are linked to stages in the life cycle by Ando and Modigliani (1963). They, and later researchers, investigate a life cycle theory of savings, where the predominant effects of intertemporal allocation are seen within the life cycle, or by age distribution [13]. Individuals borrow during early working years, save during peak-earning years, and use up savings during retirement years. Thus, the "preretirement" period is predicted as one of high savings and low levels of borrowing.

Recent studies have challenged the dissavings during retirement [3,12]. It appears, at least for those under 75, that there is not a marked increase in drawing down of previous savings. However, this is still an open question [6]. Because of the significant growth in population over the age of 60, patterns of consumption, savings, and resource allocation are significant issues.

The use of credit itself represents a willingness to exchange resources across time periods, in a manner similar to that of savings. Many studies identify decreased credit use and an unwillingness to borrow at "older" ages [2,7,11].

In general, credit studies show that income is the most significant determinant of credit use. Credit card users are more likely to be better educated, in the highest social classes, and to be younger families with children. Installment purchase debts are less likely among older person. However, less is known about the critical decisions of the preretirement period, and whether "young" older people differ in their use of credit from "older" people. This study examines the credit usage of older households in an effort to understand differences in the decisions of elder households at different age levels.

METHODS OF ANALYSIS

Data Source

The data used in these analyses were obtained from the Federal Reserve Board's 1977 Consumer Credit Survey [4]. The survey reported on the purchase, credit, and financial practices of 2,563 households.

Dependent Variables

The focus of this research lies in determining factors related to the use or non-use of credit, with particular attention to the practices of those in the preretirement period. Dependent variables relating to the use of credit form two

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discrete categories which are assigned a value of one (1) when credit was used, and zero (0) when no credit was used. Any credit, open-end credit, and closed-end credit use were all examined.

Although the Truth in Lending Act does not define closed-end credit, it defines open-end as that credit which allows customers to engage in credit transactions from time to time. Types of open-end credit include credit cards, charge accounts, retail revolving credit, and check overdraft arrangements. These credit accounts allow the customer to pay the current outstanding balance and then use the plan again in the future to obtain new advances.

"Credit other than open-end," that is, closed-end credit, refers to all other types of available credit. Examples include new and used automobile loans, loans for appliances and furniture, home improvements, personal loans, and time notes. Also considered closed-end credit are demand obligations in which the consumer receives a lump sum with no right to future credit. Many of these are classified as installment credit which refers to loans paid in two or more payments.

For the purpose of this study, we have used the subdivisions consistent with the 1977 Consumer Credit Survey. Once it was confirmed that the subjects used (1) or did not use (0) credit for purchases, the use of credit was divided into open-end and closed-end categories. By definition, open-end use of credit in this study was the use of credit cards and charge accounts.

Independent Variables

Several independent variables were used to explain the use or nonuse of credit. These include age, income, household characteristics, assets, and an index of attitudes toward credit.² The variables are listed on Table 2. All variables except number in household and assets are expressed as categorical variables.

A major focus of this study was to determine if there were any differences in the use of credit between the preretirement cohort, age 55-64 years, and other age groups, especially those older. Age categories were defined as households headed by individuals less than 25 years old, 25-49 years old, 50-54 years old, 55-64 years old, 65-74 years old, and 75 years and older.

Based on theoretical considerations and earlier studies, we expected older households in general to use less credit than others. In addition, we expected income, education, being retired and

²An index of attitudes toward the use of credit was constructed by summing the number of "yes" responses to a series of questions on whether it was all right for someone like yourself to borrow money for different reasons. The sums (ranging from 0 to 9) were grouped as unfavorable attitude (0-2), somewhat favorable (3-5), and favorable (6-9) [8].

having more assets to be negatively associated with credit use; and being married, having a larger household, being a homeowner, and having a positive attitude about credit to be positively associated with credit use.

Model

The dependent variables of credit use and their relationship to the explanatory variables are described in the following model:

$$\begin{array}{l} \text{Likelihood} \\ \text{of using} \\ \text{Credit} \end{array} = f(\text{Sociodemographic} \\ \text{characteristics, Income,} \\ \text{Assets, Attitudes})$$

The model was evaluated using multivariate logit analysis.

ANALYSIS OF RESULTS

Credit Use

Table 1 shows a distribution of open-end, closed-end, and any credit use by age of the household head and income of the total family unit. In 1977, 76.9 percent of the households in the sample were using some form of credit, whether it be open or closed-end; 60.7 percent had used some form of open-end credit, while 51.7 percent of the sample used closed-end credit.

Over 82 percent of those family units whose head was in the group from 55-59 years of age had some form of credit, second only in use to those whose head was 25-29 years of age, where 88.0 percent had used credit in the past year and a half. For those over 60 years of age there was a decided drop in use of credit: 82.5 percent of those 55-59 years of age, and only 64.3 percent of those in the 60-64 age group used credit. The drop in usage was greatest for closed-end credit after the age of 60.

Open-end credit was more widely used than closed-end credit in all cases except where 16-24 years old were heads of households, as would be expected. Credit granting policies would prohibit younger adults from obtaining credit cards.

There was a steady increase in the percentage of families using credit as family income increases. Those families in the higher income brackets had greater use of credit in general. However, the use of closed-end credit declined for those with incomes greater than \$25,000.

Logit Analysis

The multivariate logit analysis assists in determining the significance of factors independent of the effects of other variables. It is appropriate for evaluating discrete choices [9]. Here, it is used to examine determinants of credit usage.

The results of the logit analysis for any credit, open-end credit, closed-end credit uses are shown in Table 2. The independent variables are listed with their estimated coefficients and asymptotic standard errors. Detailed at the end of each table are the likelihood ratio statistic and the likelihood ratio index [9]. The likelihood ratio statistic, distributed with chi-square distribution, is used to test the hypothesis that all coefficients are equal to zero. In each case the hypothesis was rejected. The likelihood ratio statistic is significant at the one percent level for each estimated model. The likelihood ratio index (also called rho-squared) is similar to the R^2 in regression analysis. It measures how well the model approximates the observed data.

Logit coefficients do not indicate magnitude, unlike those coefficients in regression analysis. The quantitative effect cannot be shown in comparing two variables, however the ranking of the coefficients in groups is meaningful and the signs of the coefficients can be interpreted. Asymptotic t-test ratios, calculated by dividing the estimated coefficient by the asymptotic standard error (ASE), determine the significance of the explanatory variables at .05 and .01 levels.

The estimation of the likelihood of using any credit showed that only those households having heads greater than 75 years were significantly different from the preretirement group (age 55-64). Individuals over 75 years were less likely to use any form of credit. All other age groups were not significantly different in use of some form of credit from the 55-64 years group. Thus, the use of credit, viewed as a composite, in general decreases significantly only at relatively higher age levels.

The distinction between use of open-end and closed-end credit are important to note, however, since the patterns of usage are different and may be masked in the composite analysis. In the use of open-end credit, the youngest age group, less than 25 years old, was significantly less likely to use that form of credit than the preretirement cohort. They would be expected to have limited access to this form of credit. Again, those greater than 75 years were also less likely to use credit cards and other forms of open-end credit, however the estimated coefficient was not significant at the .05 level.

Closed-end, installment forms of credit produced the most significance among the individual age variables. Those greater than 65 years were significantly less likely to have this credit than those age 55-64. Individuals less than 50 years are significantly more likely to use closed-end credit. Being younger, they acquire more large installment purchase items in the earlier stages of the life cycle.

Individual income variables were found to be significant for all types of credit. As would be expected, families with earnings less than \$10,000 a year were significantly less likely to have any form of credit than those in the \$15,000-\$24,999 range. It is interesting to note that those in the \$10,000-\$14,999 range were also less likely to have open-end credit. Lower income level families may be able to acquire high interest rate, long term loans when they are unable to qualify for credit cards. As income increases, a family's use of any credit becomes more likely. Again, there were differences between open-end and closed-end credit. Those in the \$25,000-49,999 category were more likely to have open-end credit compared to those with incomes of \$15,000-24,999.

Life-cycle variables include age, marital status, family size, and number of children in the household. The following discussion considers the life-cycle variables other than age. The probability of having all types of credit was significant when the head of the household was married. As the number of individuals included in the family unit increased, the household was significantly more likely to use open-end credit. The presence of children in the family was significant only in the case of closed-end credit. This is consistent with families with children being in the earlier stages of the life cycle and accumulating household durables.

Contrary to expectations, it was found that women head of household units were significantly more likely to have some use of credit than male headed households, though specifically only in open-end credit use. This could be a result of more single heads of households being female and greater entry of females into the workforce, thereby qualifying for extension of credit. Alternatively, this type of credit, which includes retail store credit cards, may be an easier type of credit for which female heads qualify.

As the level of education increased the probability of the use of any credit increased. The effect of this factor was significant at the extreme levels, i.e., for those with less than nine grades of schooling, and for those with advanced degrees. The effect of education was apparent most clearly in the use of open-end credit where all levels of education had a significant effect on use. Those attending between 9-11 years of school were less likely to use open-end credit than all others. Those with more education than a high school degree used more open-end credit.

Home ownership with a mortgage significantly increased the probability of using any credit, both open- and closed-end. In part, this might reflect access to credit markets, and experience with credit markets currently, or in the past. Owners without a mortgage were no different than renters in credit use.

Unfavorable attitudes led to significantly lower use of any kind of credit. Although it may be

that those using credit would not report an unfavorable attitude, the estimated coefficients were relatively stable whether this variable was included or not.

Finally, as assets increase, individuals were less likely to use closed-end credit. This was as expected since assets offer a reserve to meet large expenditures in the future. Those with more assets do not need to borrow to finance major expenditures. In contrast, credit cards, a major form of open-credit, offer convenience as well as deferral of payment. The estimated effect of assets here was not significant.

Evaluating the significance of contributions of selected groups of variables assists in interpreting their importance in explaining credit use. A likelihood ratio statistic was used to evaluate the full and reduced models, omitting groups of variables in the reduced form. Age, as a group, was a significant determinant of closed-end credit use at the .01 level. Income was a significant factor determining all types of credit use. Education levels, as well as social status variables (including both education and income), were significant at the .01 level for any credit use and open-end credit. Life cycle variables (encompassing age, marital status, family size, and the presence of children under 18 years) were also significant as a group in explaining open-end credit use.

Testing Population Subgroups: The Retired vs. Those Not Retired

Results from the logit analysis were used to test for the difference between coefficients of those individuals who were retired and those not retired. This test was limited to an estimation of the model for those individuals 50 years and older. The log likelihood of each of the two groups of those 50 and older (retired, not retired) and the log likelihood of the pooled data from both groups were calculated. The test statistic, calculated as $-2((\log \text{likelihood}_A + \log \text{likelihood}_B) - (\log \text{likelihood pooled}))$ is distributed as a chi-square. The test results are shown on Table 3 and indicate no significant differences between those retired or not. Hence, among those over 50 years old, retirement itself has no significant influence on determinants of use of credit, even taking into account closed- versus open-end credit.

Further testing of differences was studied by age. That is the set of those over 50 was divided into groups, one group was the group 50-64 years, and the other, those 65 years and older. Table 3 shows there was a significant difference in describing the use of closed-end credit, but not for the use of open-end credit. This suggests age differences are particularly important to take into account in predicting use of closed-end credit. Open-end credit use, which serves a function for convenience as well as credit per se, was no different for those under 65 compared to those older.

CONCLUSIONS

This analysis shows that age is an important factor in determining closed-end credit usage. This is consistent with the life cycle hypothesis of saving, and opportunities for inter-temporal distribution of resources. The results are also consistent, however, with empirical evidence which shows a lack of marked change in consumption patterns for elders, in general. In particular, "younger" elders differed from those older only in the use of closed-end credit. Retirement itself, did not differentiate the groups in credit use.

The significance of different uses of closed-end credit shows that the willingness to take on debt is different for those age 50-64 compared to those older. Older consumers appear unwilling to assume the fixed obligations of closed-end credit. They may use open-end credit for convenience, not credit per se. The lack of distinction between retired versus non-retired households, holding income and other factors constant, suggests that it is age effects and thus expectations of (perhaps) similar life cycle, as opposed to the effect of not working that affects closed-end credit behavior. Certainly, lack of interest in closed-end credit among those over 65 is important to consider in advising older consumers considering home equity borrowing. They may be interested in the line of credit option, but not interested if framed as additional debt obligation.

Table 1. Use of Credit By Household Characteristics, 1977

Household Characteristic	Type of Credit Use		
	Open-End Credit	Closed-End Credit	Any Type of Credit
	-----Percent-----		
Age of Head (years)			
16-24	40.4	65.8	75.6
25-49	69.5	68.2	88.0
50-54	67.5	50.6	81.9
55-59	67.2	51.1	82.5
60-64	54.8	31.2	64.3
65-74	50.0	17.2	57.1
75-94	33.7	6.7	38.0
Chi-square	153.84*	462.99*	317.63*
Family Income (dollars)			
less than 3,000	23.7	21.8	39.1
3,000 - 4,999	23.9	32.6	48.4
5,000 - 7,499	34.7	41.9	63.1
7,500 - 9,999	51.1	58.0	78.1
10,000 - 14,999	64.0	60.4	84.5
15,000 - 19,999	74.3	66.9	88.0
20,000 - 24,999	82.1	68.7	91.2
25,000 - 49,999	90.4	62.7	96.1
50,000 or more	92.0	45.3	94.7
Chi-square	499.30*	251.22*	409.96*
Total	60.7	51.7	76.9

*Statistically significant at the .01 level.

Table 2. Estimated Coefficients From Logit Analysis

Independent Variable	Any Credit Use		Open-end Credit		Closed-end Credit	
	Coefficient	A.S.E. ¹	Coefficient	A.S.E. ¹	Coefficient	A.S.E. ¹
Age of Family Head (55-64 years) ²						
Less than 25 years	.259	.266	-.736**	.236	.874**	.229
25-49 years	.237	.209	-.050	.186	.385**	.163
50-54 years	.039	.255	.099	.228	-.067	.197
65-75 years	.001	.218	.329	.218	-.853**	.227
Greater than 75 years	-.626*	.274	-.267	.284	-1.584**	.405
Family Income (15,000-24,999) ²						
Less than 10,000	-.839**	.180	-1.26**	.152	-.412**	.151
10,000 - 14,999	-.018	.201	-.394**	.152	.015	.152
25,000 - 50,000	.819**	.342	.568**	.229	-.138	.171
Greater than 50,000	.724	.583	.517	.465	.128	.329
Marital Status (Not Married) ²	.982**	.195	.978**	.186	.527**	.177
Number In Family Unit	.039	.645	.155**	.053	.051	.050
Children In Family (No child <18 years) ²	.176	.213	-.127	.178	.475**	.159
Sex (Male)	.485**	.197	.659**	.194	-.050	.189
Education (High school graduate) ²						
Less than grade 9	-.361*	.181	.963**	.167	.189	.174
Grades 9 - 11	-.324	.176	-.415**	.152	-.118	.158
College Graduate	.323	.190	.593**	.156	-.015	.147
Advanced Degrees	1.020**	.257	1.248**	.200	-.038	.158
Housing Tenure (renter) ²						
Owner with Mortgage	.772**	.174	.848**	.139	.530**	.135
Owner without Mortgage	.0002	.168	.241	.155	-.171	.157
Race (Caucasian)	-.137	.174	-.184	.156	.254	.154
Occupation (Not Retired) ²						
Retired	-.253	.183	-.179	.180	-.114	.186
Index of Attitudes (Somewhat Favorable) ²						
Unfavorable	-.855**	.164	-.576**	.162	-1.005**	.169
Favorable	.146	.114	.055	.119	.302**	.111
Assets (000)	-.001	.002	.002	.002	-.013**	.002
Constant	.595	.307	-.460	.276	-.481	.258
Number of Observations	2216		2216		2216	
Likelihood Ratio Statistic	547.650**		736.080**		679.580**	
Likelihood Ratio Index	.239		.251		.223	

¹Asymtotic Standard Error

²The omitted category is defined parenthesis ().

*Statistically significant at the .05 level

**Statistically significant at the .01 level

Table 3. Differences in Use of Credit by Retirement Status and Selected Age Groups

Log Likelihood Index Statistic			
Age/Retirement Status	Open-End Credit Use	Closed-End Credit Use	Any Credit Use
Greater than 50 yrs Retired vs. not Retired (df=20)	18.02	24.04	13.64
Greater than 50 yrs 50-65 yrs vs >65 yrs (df=19)	13.26	43.78*	14.24

*Statistically significant at the .05 level.

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ABSTRACT

Rent-to-Own programs attract customers with claims of low payments and the promise of eventual ownership. In fact, customers could face an implicit APR of over 200 per cent. Because customers are technically short-term renters, disclosure provisions of the amended truth-in-lending law do not apply. Legislative remedies have been proposed, but disclosure might not be helpful if consumers lack options or if their time horizons are very short.

INTRODUCTION

Businesses which rent household equipment on a short-term basis are common in most communities. When a particular piece of equipment is used infrequently, renting offers an attractive, relatively inexpensive alternative to purchasing and maintaining the product.² In such cases, it is obvious that the consumer is paying for the services provided by the use of the item and not for the item itself (which would involve a claim on future services).

Lengthening the rental term (as is done with automobile leasing) does not change the situation. The contract for the use of the product simply covers an extended period. However, firms offering so-called rent-to-own programs are becoming increasingly common. These combine longer-term rentals with the possibility of ownership at the end of the rental agreement. Over 4,000 stores across the country now handle merchandise on a rent-to-own basis, with total volume over a billion dollars [9, p. 552].

The result is a paradox. Conceptually and legally, renting and owning are fundamentally different. Yet in practice, renting to own is similar to buying on credit. The juxtaposition of practical similarities and legal differences creates the potential for confusion. That potential is often exploited in advertisements which stress low periodic payments and treat ownership as a costless bonus to the consumer.

Despite provisions of the Consumer Leasing Act of 1976, the potential for abuse remains. This paper explores that potential and examines the adequacy of existing protection in the context of costs to the consumer and present practices in the industry. The analysis concludes with a consideration of market conditions and the limitations of alternative intervention strategies.

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² As with the gardener who rents a power tiller for the afternoon or a hostess renting 100 punch cups for a party.

The Cost of Renting to Own

The various rent-to-own programs operate similarly, with an 18-month rental period being standard for the industry. Customers are not obliged to rent for that length of time, but those who do become the owners of the product. The possibility of ownership is stressed in advertisements for rent-to-own programs, as are claims of low weekly or monthly payments.

In fact, payments appear low only because of billing periods are short. It might be possible, for example to convince someone that renting a television set for \$11.25 per week is inexpensive. The situation would likely change, however, when the person realized that payments over 78 weeks would total \$878. Such figures are, in fact, representative.

A survey of nine rental agencies in the greater Atlanta area showed that weekly rental rates for identical 19" portable color television sets ranged from \$11.25 to \$15.55, with monthly rates from \$40.00 to \$54.20.³ Table 1 presents a summary of weekly, monthly and total costs. Although rates are clustered, considerable variation is evident.

Table 1. Cost of Purchasing 19" Color Television Through Selected Rent-to-Own Plans*

#	Weekly	Total Cost	Monthly (18 mo)	Total Cost
1	\$15.00	\$1,170	\$54.00	\$ 972
2	11.25	878	40.00	720
3	15.55	1,213	54.20	976
4	15.00	1,170	49.00	882
5	14.00	1,092	46.00	828

* Stores located in metropolitan Atlanta, Georgia. Duplicate rates omitted. For details, see text.

The most notable feature of Table 1, however, is that total costs are high for all agencies sampled. A search of five retail outlets revealed a price range of \$325-399 for the same set. Thus, a customer of the lowest-priced rental agency would still pay well over twice the highest retail price identified.

³ Television sets account for nearly half of all revenue generated by rent-to-own programs. As many as 10% of all television may be acquired in this way. Home appliances represent the second largest category [9, p. 52].

If rental fees are treated as installment payments, it is possible to calculate an implicit annual percentage rate (APR) using the standard formula for such purchases [5, p. 287].⁴ Calculations are based on the lowest retail price: \$325. The resulting APR's are startling (Table 2). The highest rates range above 200% for weekly payments and over 150% for monthly payments. By contrast, the consumer making minimum monthly payments on the low-priced retailer's revolving credit plan would face an APR of 21%.

Table 2. Imputed Annual Percentage Rates for Television Purchased through Selected Rent-to-Own Plans*

#	Total Cost (Weekly)	APR-Est [^]	Total Cost (Monthly)	APR-Est [^]
1	\$1,170	206%	\$ 972	167%
2	878	162	720	117
3	1,213	212	976	168
4	1,170	206	882	151
5	1,092	194	828	140

*Prices based on date in Table 1. Retail value of \$325. Duplicate rates omitted. For details, see text.

[^]Imputed APR.

The figures in Table 2, of course, are merely hypothetical because the consumer is technically a renter. Thus, no credit is extended and no APR is involved. That is a critical point which exempts rental agencies from truth-in-lending requirements and state usury laws. It follows that although implicit rates are high, the agencies operate within the law.

During the rental period, service is provided by the rental agency. However, most items are new and covered by the manufacturer's warranty. It seems unlikely that service costs would represent

⁴APR was calculated as follows:

$$\frac{M(95N + 9)F}{12N(N + 1)(4P + F)}, \quad \text{where}$$

M = number of payments in a year (=12 monthly or 52 weekly).

N = number of loan payments scheduled over life of loan (=18 m or 78 w).

F = total finance charges (=total cost - \$325)

P = the principal amount of the loan (= \$325).

a significant portion of the total cost.⁵ One must conclude, then, that rent-to-own programs represent a very expensive option to the consumer.

The Current Structure of Consumer Protection

The Consumer Leasing Act: 1976

The Consumer Credit Protection Act of 1962 (Truth in Lending) covers only cases in which credit is actually extended, thus exempting rental or leasing agreements [3]. As it became evident that the latter were being used to avoid truth-in-lending requirements, pressure mounted to extend protection. The preamble of the Consumer Leasing Act of 1976 makes specific reference to these developments:

The Congress also finds that there has been a recent trend toward leasing automobiles and other durable goods for consumer use as an alternative to installment credit sales and that these leases have been offered without adequate cost disclosures [4, Sec. 102 (2b)].

The Law amends the Truth-in-Lending Law to ensure "meaningful disclosure" on the terms of leases and rentals in order to:

- 1) promote comparisons among alternative leasing or rental agreements;
- 2) limit balloon payments;
- 3) promote comparisons between rental and credit terms; and
- 4) assure "meaningful and accurate disclosures of lease terms in advertisements" [4, Sec. 102 (2b)].

The 1976 Act requires that periodic and total costs of leasing or renting be clearly stated. More generally, it mandates that rights and responsibilities of both the lessee and lessor be made explicit [4, Sec. 182]. The information which must be provided clearly supports the Act's intended purpose of assuring "a meaningful disclosure" of the terms of leases.

At the time of the 1976 legislation was enacted, the major concern was with automobile leasing. Thus, the law was applied only to leases of over four months in duration. Most rent-to-own programs, however, extend contracts only a week or a month at a time. A representative contract reads as follows:

⁵Officials for the Association of Progressive Rental Organizations, a trade organization, justify higher prices on the basis of greater risk that products will be damaged or lost. Product-loss write-offs are claimed to be six to eight times above the average for all retailers[7].

(1) RENTAL TERM: This rental is for a term of one (week) (month) and expires _____. Renter is obligated to make only one rental payment and is in no way required to renew this Agreement. Renter may, however, renew this Agreement if Renter has complied with all its terms, by delivering payment to the Agency for the next rental period before the end of the current period [12, Capitalization follows original; company name omitted].

Thus, despite the emphasis on renting to own, the consumer is only offered a series of renewable short-term contracts. Eventual ownership may always be an option, but is never a requirement. Indeed, there is nothing said about ownership in the clause which actually commits the consumer to the rental. The consumer has no long-term obligation and the rental agent has no long-term responsibility.

The possibility of ownership is covered in the second clause of the contract:

(2) TOTAL OF PAYMENTS: Renter is not obliged to pay this amount, but if Renter elects to renew this Agreement for ___ weeks or ___ months, Renter will have paid a total of \$___ weekly or \$___ monthly, and in that event, Agency will waive all of its right, privilege and title to the property in favor of Renter [12, Capitalization follows original; emphasis added, company name omitted].

It should be noted that the information provided meets all the provisions of the 1976 Act, using language which is relatively straightforward and unambiguous. Even so, however, it is not clear that the result in "meaningful disclosure." The manner in which the contract is structured focuses attention on periodic payments and away from total costs. The terms of the law are met in which amounts to a hypothetical manner. The "if-then" statement emphasizes the nonobligatory nature of the payment and the choice which the consumer retains. Thus, the basis on which such programs are promoted -- eventual ownership -- is treated in purely conditional terms.

The Role of Advertising

As noted, one of the purposes of the Consumer Leasing Act was to "assure meaningful and accurate disclosures of lease terms in advertisements." To that end, the Law stipulates that an advertisement which makes any statement about payments must go on to provide full disclosure about all financial terms in the rental agreement [4, Sec. 184(a); emphasis added]. Specifically, the law requires full disclosure if the advertisement mentions ". . . the amount of any payment, the number of required payments, or that any or no down payment or other payment is required at inception of the lease" [4, Sec. 184(a)].

If these provisions of the Law were applied to advertisements by rent-to-own programs, many advertising practices in the industry would have to be adjusted. For example, an advertisement for

a rental firm which operates nationally states:

* NO CREDIT HASSLE

* NO SECURITY DEPOSIT

* NO LONG TERM OBLIGATION

* EASY WEEKLY OR MONTHLY TERMS [11]

A security deposit is in the category of "other payment required at the inception of the lease." Because it is noted that no deposit is required, the advertisement should go on to provide full disclosure. However, such information is not forthcoming.

The law does not actually apply because of the exemption of short-term leases. Even the spirit of the legislation, however, is regularly violated. The reference to "Easy Terms" in the advertisement above is typical, shifting attention away from the tremendously high figures on total cost reported earlier. As the mention of "credit hassles" suggests, advertising preys upon the fears of persons who may have had credit problems or are concerned about applying for credit.

At the most basic level, the advertisements tend to misrepresent rent-to-own programs. The advertisements foster the notion of an automatic link between renting or owning, through no such link exists. Thus, it is not even suggested that the renter has neither ownership rights nor equity until the entire set of 18 monthly (or 78 weekly) rental periods is complete.

Legislative Initiatives

As a result of these problems efforts are underway to amend the Consumer Leasing Act to provide for coverage of rent-to-own programs. Hearings were held in 1983 which documented abuses nationwide [14]. At this writing, S1152 is still pending before the Congress. The Proposed Consumer Lease and Rental-Purchase Act would simply extend coverage to rent-to-buy programs by abolishing the four-month limitation in the 1976 Consumer Leasing Act, [14, Sec. 104 p. 6]. Otherwise, disclosure requirements follow the outline of the earlier legislation. Other provisions of the law focus on liability, repossession and residual value [14, Sec's. 111-16, pp. 7-16].

The major innovation in the proposed legislation concerns advertising. Section 117 of the Bill states:

If an advertisement for a rental-purchase agreement refers to or states the amount of any payment or the right to acquire ownership, the advertisements must also clearly and conspicuously state the following items as applicable:

(1) That the transaction advertised is a rental-purchase agreement.

(2) The total payments necessary to acquire ownership.

(3) That the consumer acquires no ownership rights if the property is not rented for the term required for ownership to transfer [14, Sec. 117, p. 17; emphasis added].

Enacting this provision of the legislation could alter the character of advertising for rent-to-own programs dramatically. Eventual ownership could no longer be characterized as a costless bonus to the consumer. The true costs involved would have to be made available to potential customers before they had progressed with their decision making processes [14, p. 36]. Given what appear to be questionable advertising practices by some firms in the industry, the advertising disclosure requirements offer the potential for significant benefit to consumers.

The Limitations of Policy

The proposed extension of the Consumer Leasing Law to cover rent-to-own programs is the most obvious policy response to the problems outlined above. One would like to think that extending the law would take care of the problem, that consumers would behave differently if only they were truly aware of the tremendous costs involved. Extending the law should certainly curb abuses, particularly with reference to advertising. Nevertheless, there is reason to doubt whether the amendments themselves represent a solution to the problem.

Even though it is not required, many leases now conform to the law. Yet even after they have been made aware of the high costs involved, increasing numbers of individuals still opt for rent-to-buy programs. One must therefore question the effectiveness of the required disclosure. The case illustrates again the limitations of conventional disclosure programs.

Those limits arise because providing information does not itself guarantee that the information will be utilized by consumers [2, 6, 8 & 13]. Even if consumers are able to process the information, they will not act upon it if it does not seem relevant to them. There are two reasons which suggest that those who rent to own may perceive the information to be irrelevant.

The first has to do with alternatives. As has been noted in the case of Truth in Lending, being aware of an alternative is of little value if one is not in a position to take advantage of it [2]. Rent-to-own programs target lower-income groups who are more likely to have poor credit histories or be fearful of applying for credit.

The advertisement noted above, with its emphasis on "No Credit Hassles," is typical. Another advertisement states: "RENT TO OWN! The Alternative to Credit!" This emphasis is reflected by stories in trade publications which report firms' successes in renting to "credit-needy buyers" [10, p. 48]. It is indeed likely that individuals who lack access to credit would be drawn to rent-to-own programs for lack of an alternative.

The second reason relates to time horizon. As Andreasen noted, lower-income consumers tend (out of necessity) to have shorter time horizons [1, p. 180-83]. Faced with income uncertainty and other immediate pressures, their tendency would be to focus on immediate concerns and discount even short-term events heavily.

Recall that the advertisement quoted above stressed that rent-to-own programs offer low payments with no security deposits or long-term obligations. For those who lack money for a deposit (or down payment) and who are not sure if they will have the money for future payments, the prospect may be attractive. Total costs may be excessive, but that would be secondary to someone who wasn't sure about making payments anyway. Because there is no long-term obligation, a consumer with financial problems could simply opt out of a rent-to-own program at any time.

Thus, the case illustrates Andreasen's observation that the low-income marketplace works differently than the market at large [1]. The types of policies which are effective for the latter may have little impact on the former because of differing needs and constraints. Indeed, one could argue, as industry officials do, that rent-to-own programs represent a positive market response to consumer needs which would otherwise not be met.⁶

Summary and Conclusions

The one thing which is clear in the rent-to-buy case is that consumers who choose that option pay a tremendously high price. The appropriateness of the words choose and option might be debated, because both imply an informed selection among alternatives. Indeed, those two words identify the crux of the policy question.

If the problem is that consumers are uninformed, added disclosure provisions might be effective in dealing with the problem. However, if the problem is a lack of options -- or perceived options -- disclosure would have only a limited impact. Rent-to-own programs appeal to a segment of the market which is poorly served by conventional outlets.

One policy question which emerges is the impact of Truth-in-Lending legislation on the low-income consumer's access to credit. If Truth in Lending has in some way limited access to credit, existing disclosure requirements may have fostered the growth of rent-to-own programs. Such complex lines of causation are not easily traced, but the question should be investigated.

Finally, it should be noted that while additional disclosure might have a limited impact, a vigorous

⁶An industry lawyer was quoted as saying: "We haven't created a market, we've seen a market and provided what people want" [7].

education and publicity program could be effective. Disclosure provides only words on a page and words can be ignored or misunderstood. However, if consumer educators, in conjunction with community groups, offered ongoing, dramatic evidence of the costs involved, the message would have more impact.

It is ironic that nearly a quarter century after the passage of the original truth-in-lending legislation, consumers are still paying charges which are alarmingly high. That should be a reminder that there are no simple solutions. Such reminders challenge both consumer researchers and educators to expand their understanding of market operations and translate that understanding into programs and policies which enhance consumer well being.

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