MEASURING COMPETENCE IN CONSUMER EDUCATION

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Challenges in measuring and evaluating consumer competency are explored. Literature and experiences of the researcher in such endeavors are reviewed. A plan for developing a standardized instrument is outlined.

> Individuals and groups actively participating in consumer education programs should gain competence in the knowledge and skills needed to make decisions and take actions as consumers. (Bannister and Monsma, 1982, p. 8)

Those of you who are familiar with the Bannister and Monsma monograph will recognize the above quotation. This statement expresses the objective of consumer education as a field of study. My concern is that we as a body of specialists have not done what is necessary to measure and evaluate on a larger scale the gain in knowledge or skill competence in consumer education. To do so requires the development of a measure of consumer competence. The time is at hand to accomplish this task.

Over the last ten years much attention has been given to the competencies of students and teachers in our educational system. Competence-based education utilizes competencies that are derived from tasks performed in specific roles (Blankenship and Moerchen, 1979). Recommendations regarding curricula have been profuse. Documentation of course objectives has increased. Students and teachers have experienced more performance and achievement testing. Classroom performance of teachers is observed and evaluated by peers, administrators, parents and students. The purpose of these efforts has been to measure and determine where we are, and where we can go in the support and improvement of quality education.

Consumer educators have been active in many of these efforts. Last year's annual meeting session in Chicago attested to our action in the areas of curricula and program development based on the <u>Classification of Consumer Education Concepts</u> monograph. At the 1987 meeting Vosburgh highlighted research needs including the measurement of consumer competence (Vosburgh, 1987). Green at the 1986 Wingspread Conference underscored the necessity of a reliable, valid instrument from which bottom line benefits of consumer education could be measured (Green, 1988). However, attempts to assess competence have been sporadic and have met with varying complications. The purpose of this paper is to address the challenges of measuring consumer education competence based on research experience and literature review.

WHAT TO MEASURE?

If the objective of consumer education is for participants to gain competence, perhaps this is the starting point in determining what to measure.

Competence is measured through the use of competencies. Competencies are developed by beginning with a detailed topical analysis of intellectual tasks (Blankenship and Moerchen, 1979). At this level, it is only important that the person being assessed <u>know</u> how to perform the task. This process lends itself well to the development of cognitive measures. (Tests of cognition currently are available though not as prolific as in the late 1970s. Examples of tests that are or have been available will be presented in a later portion of this paper). It is in the cognitive area that the <u>Classification of Concepts in Consumer Education</u> provides the groundwork for development of competencies and the beginning of a valid and reliable consumer education standardized test.

Brennan and Banaszak (1982) reported that three states (Florida, North Carolina and Texas) in the early 1980s had statewide competence statements for economic literacy at the secondary level. Two states (Tennessee and Georgia) were in the process of developing competencies at that time. Three other states (Oregon, Virginia and Wyoming) required local school districts to develop competencies. Idaho had developed competencies to serve as a guide for its consumer education mandate.

Job and skills analyses provide information based on the actual performance of a job. Measurement of these competency areas would enable evaluation of a consumer role in terms of actual procedures followed as well as willingness or consistency in performance of that role. Specifically, one might observe complaint procedures followed by an individual, what is done and how one does it. Fellow researchers continue to explore attitudinal and behavioral aspects of individual functioning in the market. For example, we have the body of knowledge evolving on consumer satisfaction, expectations, consumer socialization. At this time, the state of research in these areas may not lend itself to development of a valid and reliable competency-based consumer instrument. At best, tests of affective areas would necessitate updating of an instrument on a five year rotation or less to insure validity. Our economics counterparts have made use of the Survey on Economics Attitudes, the Attitudes Toward Economics Scale and the Economic Attitude Sophistication Scale to analyze student attitudes (Soper and Walstad, 1988).

WHO SHOULD BE TESTED?

Individuals and groups participating in consumer education programs should be measured and evaluated. Who participates?--instructors <u>and</u> students. Evaluation through measurement assists in determining value of our efforts and in improving upon weaknesses that may exist.

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Standardized testing is important to diagnose educational needs (Ward, 1982). If one looks at standardized tests available in consumer education, one might deduce that the educational needs of the teacher are of little importance. To date, most efforts at testing purely cognitive knowledge of consumer education or economics concepts have been aimed at students at primary, secondary and college levels. These tests have been designed primarily to evaluate results of instruction in consumer education or economics.

Davis (1977) stated that, in order to improve student competence in the field, teacher competence must be improved. Siewart (1978) concurred recommending closer evaluation of instructors before placement in consumer education positions for purposes of assuring competency. The movement for excellence that has taken the form of more rigorous standards across all subject matter areas for teacher certification and recertification attest to this view within the United States.

Gould (1982) expressed the stance of the American Federation of Teachers in supporting minimal competency testing of new and veteran teachers for purposes of guaranteeing standards of excellence. Objectives in testing should be to learn differences in teacher performance, teacher effectiveness and student performance. Daniels (1982), however, noted those being assessed fearing or questioning evaluation based only on written test results. Attention to this concern is underscored by the recent ruling in favor of the American Civil Liberties Union's suit contesting of exclusive use of the Scholastic Aptitude Test (SAT) for awarding state merit scholarships (Cohen, 1989). Other educators (Vernon, 1982) noted pressure to tie contracts, renewal of jobs, placement in schools and salaries to achievement by teacher's students.

Attempts to test teachers or potential teachers of consumer education/economics have been made by many of us. Lofgren and Suzuki (1979) used a researcher-developed test based on concepts outlined in the Oregon Personal Finance Education Guide to test cognitive competence of Oregon teachers in areas of consumer education/economics/personal finance. Garman (1979) conducted a national assessment of prospective teachers using the Test of Consumer Competencies (TCC) developed by Stanley (1976). Peters (1979) used the same instrument to measure consumer economic understanding of college seniors enrolled in Florida teacher education programs. McRee (1986) used the TCC to determine consumer education competence of business education, home economics and social studies teachers in Missouri.

Dickinson and Shaver (1982) developed the Test of Consumer Awareness for Adults (TCAA), defining consumer awareness in a cognizance of information context. The Adult Functional Competency Test (1975), listed on the Michigan Consumer Education Centers list of tests, remains the only test of consumer competency developed for purposes of testing adults. Reports of use of TCAA beyond its validation are difficult to locate in the literature.

WHAT INSTRUMENTS ARE AVAILABLE?

The Michigan Consumer Education Center maintains a listing of tests in consumer and economic education. In addition, the Joint Council on Economic Education (JCEE) is the source of several standardized tests for primary, secondary and college-level students. Buros Mental Measurements Yearbook series provides reviews to describe and critique individual instruments in terms of usefulness and applicability. Figure 1 includes a list of tests which are briefly described here.

FIGURE 1. List of Consumer and Economics Education Tests.

Adult
- National Teachers Exam (NTE) Specialty Area Tests
- Graduate Record Exam (GRE) Advanced Economics Test
- Test of Consumer Awareness for Adults (TCAA)

College
- Test of Understanding in College Economics (TUCE)

Secondary
- Test of Economic Literacy (TEL)
- Test of Economic Knowledge
- Test of Computer Competencies (TCC)
- Mastery Test in Consumer Economics (MTCE)
- Test of Economics Achievement
- Test for Everyday Living

Elementary
- Basic Economics Test

For the most part, testing through course work must be relied upon for evaluation of teacher knowledge at this time. No standardized tests for adults other than the National Teachers Exam (NTE) and the Graduate Record Exam (GRE) Advanced Economics Test (for graduate school candidates) seem to exist. These tests are published by the Educational Testing Service (ETS).

In an effort to improve excellence in education, many states are requiring veteran teachers to take the NTE as part of recertification. The number of states requiring the exam for new teachers with no experience has increased since the late seventies. The NTE was revised in 1982 to include 26 Specialty Area tests (formerly called Area Examinations) that are two hours in length of administration (Nelson, 1985). Internal consistency reliability measures for each of the Specialty area tests is over 0.90. Reliability data for scores over time are not reported in the manual. Predictive and construct validity information is lacking. Specialty area portions of the NTE are not always required for certification or recertification.

The Specialty Area portions of the NTE can be scrutinized to find some assessment of consumer education/economics concepts, particularly business education, home economics and social studies areas. In 1985, faculty reviewers from the Oregon State System of Higher Education judged specialty area tests of the NTE (OSSHE, 1985). For security reasons, ETS limited the number of persons that could review the tests and the ability to test answers with the questions. Opportunity for preparatory teachers to gain knowledge in the area, the importance of knowing the information, and technical adequacy in each item were evaluated. Technical adequacy was a measure of ambiguity, response options, etc.

The business education specialty test contained consumer education questions within the 60 item business information category. Items on this test were judged to be technically inadequate indicating evidence of ambiguity, poor response options, etc.

The home economics education specialty test contained 22 questions regarding consumerism. These questions were judged to be technically inadequate.

The social studies specialty area test contained 12 questions in economics. The test was judged to be acceptable. However, reviewers expressed concerns about the scope of this specialty examination. Therefore, results of any attempts to measure consumer education knowledge of teachers or consumer economics classes at the primary and secondary school level are limited in the ability to be generalized to a larger population.

The current availability of The Test of Consumer Awareness for Adults is not known. However, it is one of the few instruments developed for adults. Content validation was established through determination of major consumer problems in a specific geographical area at the time of test development. Mini-case situations were developed with accompanying short-answer essay responses. Scores had three component parts based on information, law and recourse awareness. Some support of construct validity was obtained through university, community college and adult education classes as well as other groups with consumer related interests such as American Association of University Women. A test-retest reliability study was also conducted as part of the test's development.

The Joint Council on Economic Education (JCEE) markets the Test of Understanding in College Economics (TUCE). This instrument was slated for revision in 1988. The current materials catalog, however, lists the 1981 TUCE product. The test is designed to assess knowledge gained at introductory college course levels (Saunders, 1981). Kuder-Richardson reliability measures range from 0.73 to 0.81 on the forms of the 1981 test. The JCEE is considering development of an instrument to measure he economic knowledge of teachers (Brenneke, et al., 1988).

Through its Developmental Economic Education Program (DEEP), the Joint Council on Economics Education (JCEE) has made an effort to improve quality of economic education evaluation in its programming (Brenneke, et al., 1988). Recently, the JCEE decided to begin a regular five-year revision schedule of its standardized cognitive tests. The senior high level Test of Economic Literacy (TEL) was revised in 1987. The Test of Economic Knowledge, also complited in 1987, replaces the old junior high school test. Revision of the Basic Economics Test for elementary students (grades 4-6) should be completed this year.

Soper and Walstad (1988) have indicated, that based on reliability measures, the revised version of the TEL is stable over time. The internal reliability estimates were 0.87 and 0.88 for the two 46-question forms of the test when normed on a student sample of 8,205. The norming group came from students enrolled in economics, personal finance, consumer economics and social studies courses as well as those who had not taken economics (Soper and Walstad, 1988). Demographic information about students' sex, grade, IQ, race, community and income is provided in the manual. The test included fundamental, microeconomic, macroeconomic and international content areas. Questions were distributed across knowledge, comprehension, application, analysis and evaluation levels of the cognitive domain. The test can be completed in a 40-minute class session.

The Test of Consumer Competencies (TCC) (Stanley, 1976) was used by several researchers (Garman, 1979; Peters, 1979; McRee, 1986) to test consumer education knowledge of young adults and prospective teachers. This test, based on performance objectives in the 1972 Illinois "Guidelines for Consumer Education," is no longer in print. However, when reviewed (Coffman, 1978) the TCC received high marks for documentation of its validation process. The TCC was normed on Illinois high school students. Reliability measures were lower than 0.80 or 0.90 usually associated with standardized tests, when used by Garman (1978) and McRee (1986) to test young adults and adults, respectively, reliability measures were only slightly lower than the normative data. Criticisms by reviewers included the failure to associate test items with the performance objectives measured. The TCC was judged to be an appropriate for program evaluation but not for assessing performance of individual examinees.

Reviews of three tests in Buros should be reported due to test existence and for foundation in development of future exams. These include the Mastery Test in Consumer Economics, the Test of Economic Achievement and the Test for Everyday Living.

The Mastery Test in Consumer Economics (MTCE) containing 45-items was designed for high school students (Lehmann, 1985). Normative item analysis derived from testing in Illinois high schools is reported. The MTCE was complimented on the quality of its test items. Limitations were stated to be its ability to diagnose student strengths and weaknesses, validity and lack of reliability data. Both reviewers (Lehmann, 1988; Sheffield, 1988) recommended that the author review and consider increasing the number of questions included on the MTCE per objective. More specific objectives were thought to be a basis on which improvement could be made.

The Test of Economic Achievement was developed in Canada for achievement assessment (Lehmann, 1985). The test was considered for content validity which was based on a variety of general texts and its respectable reliability reported. Limitations include its normative data in terms of descriptive data, sample size and the poor format of the test itself. Caution was given the use of the test outside of Canada. Ochoa (1985) felt that attention to world conditions and trends was absent.

The Test for Everyday Living is an orally administered test developed in 1979 for secondary school level (Landman, Irvin and Halpern, 1980). It was designed for junior high and low-achieving senior high school students. It addressed the areas of purchasing habits, banking, budgeting, health care, home management and job-related behaviors and skills. The test is easily administered and scored as were other tests mentioned in this review.

WHEN SHOULD TESTS BE ADMINISTERED?

The tests that have been described demonstrate evaluation of students via post-testing after a course or program of study. Without pre-testing, only a portion of the effects of coursework is measured. In these situations, no before education reference point can be obtained against which to measure the effects of the particular study and/or instructional effort. (These principles apply no matter the level of education being tested.) Care should be given that a standardized test not be used as a content outline nor should teaching to the test occur. Changing the test on a regular basis assists in avoiding this problem.

Because coursework preparation by those who potentially teach consumer education varies so much, it seems appropriate that testing of teachers could occur both before and after teaching their first full course in consumer education/economics. (This statement assumes that content is consistent across courses.) Retesting should be conducted on a cycle parallel to those used in recertification, every five or ten years. Positive marketing of a valid test could enable this. With valid and reliable testing of both teachers and students, we would have a larger sample from which to determine once and for all whether knowledge of instructor affects the content of a course and/or the gain in knowledge by students.

Pre- and post-testing fulfill only one function of the measurement and evaluation process. At present, we have no yardstick on which to measure competence of the population-at-large. Yet, over the last ten years many claims as to consumer's knowledge and ability to function in the marketplace have been made by government leaders. When post-testing is the only measurement made and the fraction of persons enrolled in consumer education or consumer economics courses is small, how is such a claim validated? Brobeck (CFA, 1989) suggests administration of a test to a random sample of adults throughout the nation. This, certainly, is a step in the right direction for determining our effectiveness and progress as a field of study.

WHAT CAN BE LEARNED FROM EXPERIENCE?

As hindsight is better than foresight, I would like to share my experience from research concerning this topic. In research conducted during 1986, I found that experts in consumer education were not aware of tests for adults. Consumer educators with track records were not talking about measuring competency. My options were the Adult Functional Competency Test and the TCAA. Inquiry regarding the Adult Functional Competency Test brought no response. The TCAA measured more than cognition which was the desired level of measurement in my research.

Compounding the problem was the lack of research in the area. Documentation of studies after the late 1970s was and remains limited. In preparing this paper, only one newer piece of research was found that mentioned competency based education and consumer education. However, several articles were found that continue to discuss the need for measurement and evaluation of consumer competency.

Use of a straight economics test was not appropriate for members of the population in my research. College course preparation differs for teachers responsible for consumer education content. Course opinions include economics, consumer economics that may or may not emphasize economic concepts and marketing courses. Using any of the tests developed by the JCEE would have provided desired validity and reliability norms. However, the reality is that the discipline of economics has been around longer, allowing for consensus on appropriate content for testing as well as providing a network for simplifying the standardization process. Time constraints did not allow for developing an instrument. The selected instrument proved to be more appropriate as a post-test after a class in consumer education.

Control in testing was a major obstacle and will be an obstacle in piloting any future instruments for adults. Yet, on-site testing is more appropriate for test development than is a mailed instrument. Getting a large group together in one location for testing is difficult to schedule. Meeting with several groups requires time, personnel, and a corresponding travel, training and/or communications budget.

As was learned in my study and others, age or its proxy plays a part in scores on a cognitive measure of consumer education. Some measure of life experience may need to accompany a piloted instrument to determine examinees' experience in decision making, resource management or citizen participation.

The tests discussed in this paper, their strengths and weaknesses, and the results of earlier research represent a basis on which future tests of quality can be developed.

WHERE DO WE GO FROM HERE?

In order to strengthen consumer education as a field of study, the time to develop measures of competency is now. To do so suggests standardized instruments reflecting common curricular goals and objectives. Elements needed within the total plan may already exist on which test developers can draw.

Competencies or objectives will need to be developed for each subject matter area included on which to create questions for each test. Those already developed in states or local school districts could be utilized. The classification system monograph (Bannister and Monsma, 1982) also provides a base on which to identify and build competencies.

Precise objectives on which to develop questions is essential. Relevant questions would then have a standard on which to be based. As many levels as possible of the domain (cognitive, affective, psychomotor, or perceptual) tested should be included. Sufficient numbers of questions within each domain and for each objective need development to insure quality normative data. A large pool of questions would be a step in the right direction. These strengths emanate from the MTCE and the TEL.

Achieving acceptable levels of content, predictive and construct validity measures through the test development process would be a desirable goal. Respectable reliability coefficients for stability, equivalence and internal consistency should also be a goal. Tests that currently exist exhibit content validity, in most cases, and construct validity in a few. Several existing instruments exhibit reliability measures of equivalent forms and internal consistency. To assure these requirements, a revision cycle would need to be established.

It is clear that competency instruments need to be developed for both teachers and students. The example of the JCEE can be followed in developing tests for students in elementary, junior high and senior high schools, as well as teachers. Adult education level tests would also be an appropriate goal. Reading or capability level of students (slow learner through advanced) should also be considered. Both adult and capability level tests would follow the example of the Test for Everyday Living.

Practical uses of each examination should be determined prior to test development and stressed within the test manual for potential user of the instrument. Will students be able to exempt a class given a specific level of achievement on the examination? Should the test be used as a diagnostic tool? Is the instrument an appropriate measure for determining knowledge level for purposes of certifying, hiring or promoting of teachers? Answers to these questions would assist in resolving concerns of professionals who might be tested and parents or teachers of students tested.

The ideal has been described. It requires a cooperative effort by many persons and strong financial backing. However, the process evaluates and provides support for continuation of our efforts as a body of researchers and educators in strengthening the field of consumer education.

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INFORMATION SEARCH BEHAVIOR OF LOW INCOME ELDERLY CONSUMERS

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ABSTRACT

This paper reports information search behaviors of low income elderly consumers and suggests hypotheses for further research. Subgroups of consumers within the population group studied were identified and characterized by similarities with regard to information search behavior.

DATA AND SAMPLE

The data were collected in Ohio during the late summer and early autumn of 1986 and 1987 via personal interviews with low income persons age 65 and over (40 rural, 59 urban). Information was gathered on money management attitudes and behaviors and the usefulness of information search for specific financial products.

All of the respondents had an annual income of $21,000 or less (72 were white and 27 were black). About one-half of the sample (50) had less than 12 years of education, and about one-half (48) had 12 or more years. With regard to respondents' perceived adequacy of income, three respondents felt that they could not make ends meet, 37 respondents felt that they had enough to meet their needs but no extra, 35 respondents felt that they had enough to meet their needs and a bit extra, and 24 felt that they could nearly always afford the things they needed or wanted.

DATA ANALYSIS

The data were analyzed using qualitative data analysis. Qualitative data analysis is characterized by a search for meaning in words and behaviors which cannot be reduced to numerical codes without a loss of information. Respondents were categorized using open-ended responses to the questions relating to information search. The categories of respondents follow.

Nonseekers of Information (N=60)

The Uneducated (N=5): Persons who feel that their lack of education prevents them from actively looking for financial management information.

The Religious (N=6): Persons who do not look for information because they obtain the financial management information needed through spiritual guidance.

The What's The Use (N=22): Persons who do not look for financial management information because they feel they do not have enough money to manage, or they have some type of physical limitation which prevents them from looking for information.

The Uninterested (N=27): Persons who do not look for financial management information because they feel they can manage their money without help, and/or they express no interest in or scorn for information.

Information Seekers (N=21)

Persons who express an interest in and/or willingness to search for financial management information.

FINDINGS

Information seekers tended to have more education and to have higher incomes than the four groups which exhibited little information search behavior. Those persons who expressed an interest in and/or willingness to search for financial management information were more receptive to information provided through personal sources (primarily adult offspring) than non-personal sources. The four groups which exhibited little information search behavior provide insight into why low income elderly persons don't search for financial management information.

HYPOTHESES SUGGESTED BY THE FINDINGS

The data obtained in this study generally support the widely accepted hypothesis that consumers will search for and use information only when it's perceived benefits exceed it's costs. Findings suggest the following hypotheses: (1) As income increases, low income elderly will perceive a greater risk of making a poor financial decision because a greater range of financial choices seems possible, thus making information search more likely; (2) As educational attainment increases, low income elderly persons will perceive a greater benefit to be obtained from searching for and using financial management information, regardless of the perceived degree of risk associated with financial decisions, because knowledge of available sources will increase and psychological stress associated with information search and use will decrease; and (3) Low income elderly consumers will be more receptive to information provided by personal contact than to that provided through print or broadcast media because less effort is needed to interpret the information.

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FINANCIAL COUNSELING BY LARGE EMPLOYERS IN VIRGINIA

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Financial problems are increasingly being cited in the literature as an important factor which affects employee job performance. This study was conducted with employers of a large number of employees working in Virginia in order to assess corporate responsiveness to the financial counseling needs of their employees.

Personal problems may affect job performance for one out of every six employees. These job-performance problems may include excessive absenteeism, poor quality or quantity of work, increased accidents on the job, higher grievance rates, and increased health-care costs. These problems may result in approximately twenty-five percent of a troubled employee's salary becoming "unearned-income" (Bailey, 1986).

Employee Assistance Programs (EAPs), capable of dealing with the full range of personal problems, are humanely offering assistance to troubled employees with a variety of personal and employment related problems. Management has realized that these employee benefits can resolve problems, reduce turnover, decrease operating costs, and increase profits.

PROBLEM

The problem of this study was to gain insights into the responsiveness of corporations with a large number of employees in Virginia to the financial counseling needs of their employees. Companies were surveyed to determine the following: (1) specifically which departments within the firms were actively providing counseling programs, (2) what types of counseling services are available, both in-firm and on referral, (3) what the response level of the employees is to the service, and (4) what noticeable outcomes have resulted from the implementation of the counseling program.

METHODOLOGY

A survey instrument (Garman & McMillion) was mailed in 1987 to the 43 largest companies in the state of Virginia based on employee size. The corporations surveyed ranged in employee size from 500 to over 3,500 people at the largest Virginia work site, and included manufacturing, banking, and other service sector firms. A forty-two percent return was obtained from the questionnaires addressed to the director of the Employee Benefits Office.

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FINDINGS

In the opinion of 44 percent of the respondents, 1-10% of their company's employees have financial difficulties with debts or budgeting; an additional 28 percent estimated that 30-40% of employees have financial difficulties. Sixty-seven percent of the companies surveyed had an in-firm counseling program or an in-house Employee Assistance Program available to employees with various problems affecting job performance.

Of those firms offering such counseling programs, counseling for alcohol and drug abuse is made available by 100 percent of the companies; 75 percent offer counseling for marriage conflicts and psychological problems; 67 percent for financial problems.

All companies offering counseling use referrals and pamphlets or brochures to advise employees of counseling services. Seventy-five percent of the firms indicate that employees have responded favorably to the availability of financial counseling services. Respondents observed that the main causes of employee financial troubles were overuse of credit, overspending, lack of budgeting, too many debts, inadequate shopping and spending skills, salary or wages too low, and lack of knowledge with money. Improved attendance and better attitude toward work were cited by 38 percent of the respondents as on-the-job results that have been noticeable after employees have been provided counseling to help them better manage their financial and other personal problems.

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SENIOR CITIZEN DISCOUNTS: WHO OFFERS THEM AND WHY

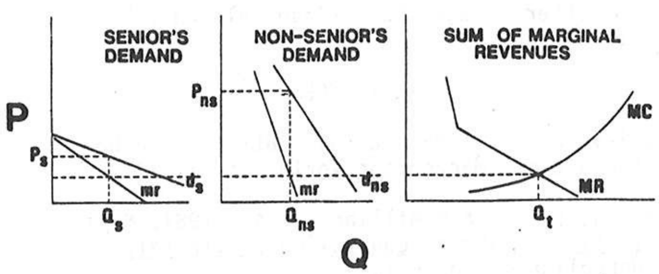
Jean Kinsey and Lorna Vink*

A survey of retail businesses in Minnesota showed that 33% of urban versus 11% of rural stores offered senior citizen discounts. Pharmacies and restaurants are the most likely to offer discounts. Pharmacies are compelled to meet their perceived competition while restaurants' behavior can be explained by price discrimination models. Overall, 63% of businesses who offered discounts said it was "to build loyalty;" only 10% said it "increased profits." Probit analysis showed that location, type of business, sales volume, and being part of a national chain significantly explained the probability of offering senior citizen discounts.

The availability of senior citizen discounts has the potential of increasing the spending power of senior consumers. This study focused on the availability of these discounts among main street businesses in rural and urban communities. Surveys were mailed to 672 businesses to identify those factors that determine whether or not senior citizen discounts were offered, their value, restrictions on their use and the attitude of business managers about these discounts.

Based on responses from over 400 businesses it was learned that there were different economic motivations for offering senior citizen discounts. In markets where products and buyers could be differentiated, such as in restaurants, classic price discrimination models explain the widespread use of senior citizen discounts. The graph below illustrates this phenomenon.

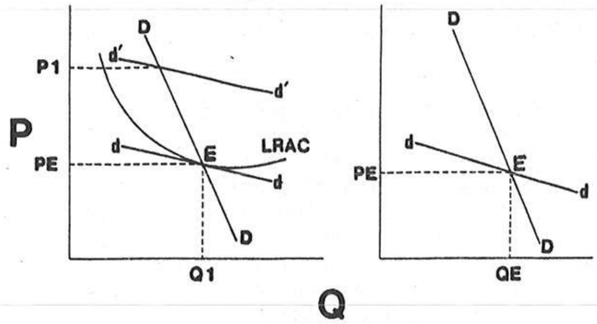
PROFIT MAXIMIZATION
Example: Restaurants



- **Price Discrimination**
- **Product/Service has higher price elasticity among seniors**
- **Markets separable;Limited arbitrage**
- **Marginal revenue equated in each market leading to lower price (P_s) for seniors**

In markets with homogeneous products, such as prescription drugs in pharmacies, a monopolistic competition model explains the discounting behavior. This is illustrated below. Although hotels and airlines were not part of this survey, the results imply that financial service businesses would behave like pharmacies, that is, as monopolistic competitors. Hotels and airlines can differentiate their services by time and place and practice price discrimination in the granting of senior citizen discounts.

MARKET SHARE
Example : Pharmacies



- **Monopolistic Competition leading to a kinked demand curve dD (⌝\)**
- **Inelastic demand for product-perscription drugs (DD)**
- **Elastic demand for individual seller (dd)**
- **The discounts decrease price from P1 to PE as d'd' slides down DD**
- **At E individual seller sees demand curve dD (⌝\)**

Probit analysis was used to study the determinants of the probability of offering senior citizen discounts among the seven types of businesses surveyed. Businesses most likely to offer senior citizen discounts were pharmacies (74%) and restaurants (31%) located mainly in urban areas, with a low percent of elderly customers, selling non-durable goods and services, competing for market share and affiliated with a national chain.

Restrictions placed on senior citizen discounts place the burden of use on the consumer. Over fifty percent of businesses would offer the discount only upon request or when consumers identified themselves as senior citizens. Grocery stores and dry cleaners often restricted availability to certain times while pharmacies restricted availability to certain items, mainly prescription drugs. Table 1 provides details. The value of an individual discount is quite small. Forty-nine percent of those who offered discounts offered an average of 10% off the total bill. Four percent offered cents-off with an average value of 79 cents per item and 10 percent offered "free" goods valued at about 57 cents each. In the aggregate, however, these add up. For example, senior citizen discounts were estimated to save seniors between $153 and $489 million per year in restaurants alone.

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Table 1

RESTRICTIONS ON SENIOR CITIZEN DISCOUNTS

		Percentage of Discounters with These Restrictions
ONLY IF REQUESTED		55%
ONLY AT CERTAIN TIMES		5%
GROCERY STORES	40%	
DRY CLEANERS	29%	
RESTAURANTS/PHARMACIES	2%	
ONLY ON CERTAIN ITEMS		33%
PHARMACIES (PRESCRIPTION)	79%	
RESTAURANTS	4%	
CUSTOMER MUST APPEAR ELDERLY		26%
RESTAURANTS	37%	
PHARMACIES	13%	
CUSTOMER MUST SAY THEY'RE A SENIOR		53%
CUSTOMER MUST SHOW I.D. OF AGE		11%
CUSTOMER MUST BELONG TO THE BUSINESS' OWN DISCOUNT PROGRAM		19%
RESTAURANTS	20%	
DRY CLEANERS	43%	
PHARMACIES	3%	

The most frequent unsolicited comments from business managers were: 1) There is not enough profit margin (in grocery stores) to offer a discount to one particular group. 2) Seniors are better off than other customers; other groups need discounts more. 3) Senior discounts are unfair to other customers. 4) We have coupons/discounts available to all our customers.

The reasons for offering senior citizen discounts vary by type of store and size of town. The last column in Table 2 tells the percent of all businesses that gave a particular reason; the middle column tells the percent of selected types of business (or locations) that stated the reason.

Some conclusions from the survey are that senior citizen discounts are more likely available in urban areas, to mobile and relatively well-off customers. They probably do not represent significant savings to any one senior's household, but that would be better tested by a household survey. As the proportion of customers who are seniors increases, the likelihood of finding senior citizen discounts declines. Consequently, as the population ages, senior citizen discounts are not expected to expand and may become less common than today.

Table 2

WHY DO BUSINESSES OFFER SENIOR CITIZEN DISCOUNTS?

		Percentage that gave these reasons
TO BUILD LOYALTY		63%
TO ENHANCE BUSINESS IMAGE IN A SMALL TOWN	88%	59%
TO INCREASE PROFITS		10%
GROCERIES	25%	
RESTAURANTS	11%	
DRY CLEANERS	29%	
TO KEEP UP WITH COMPETITION		28%
PHARMACIES	60%	
TO HELP THE COMMUNITY		37%
RESTAURANTS	44%	
GROCERY STORES	75%	
IN A SMALL TOWN	63%	
IT'S COMPANY POLICY; NOT A LOCAL MANAGEMENT DECISION		19%
PHARMACIES	33%	
TO HELP OUT SENIOR CITIZENS		8%
REPAIR SHOPS	60%	
GOOD FOR MY BUSINESS		73%
PHARMACIES	79%	
RESTAURANTS	75%	

CONSUMER DECISION-MAKING AND HOME REPAIRS

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As a result of the economic constraints felt by individuals and families, more consumers are trying to save money by doing their own home repairs. The decision of whether to do the work yourself or to hire a repairman, both offer opportunities for poor decision-making. This consumer program was developed to be used by educators in the teaching of consumer decision-making concerning home repairs and the most efficient methods of doing 12 common home repair projects. As a result of this program, 100% of the educators were inserviced, nine workshops were conducted with 1201 participants, 15 newspaper articles were written with an estimated readership of 195,000 and thirty-one teaching packages were sold to other consumer educators in other states.

RATIONALE

Today, consumers are faced with complex decisions concerning the management of time, money, and energy resources. A home is the biggest investment most consumers will ever make in their lifetime. Increased housing costs are placing financial constraints on individual and family incomes. As a result, more consumers are trying to save money by doing their own home repairs. According to the National Association of Home Builder Remodelers Council, consumers can save from 30% to 70% of the repair costs by using good decision-making practices and/or by doing the work themselves. Unfortunately, these savings are dependent upon the knowledge and skills of the consumers. Lack of knowledge and skills in home repair can lead to redoing the repair project, paying more than the market value for labor and materials, or being dissatisfied with choices made in the decision-making process.

PURPOSE

The purpose of this program was to provide educators with the teaching materials needed to help consumers make effective decisions concerning home repairs and the methods of doing 12 common home repair projects. The content for the teaching materials was determined by a survey of consumer educators. These teaching materials consisted of an advertisement brochure, news releases, a follow-up survey, and scripts and transparencies on the following topics: (1) What Are The Facts? (2) Should You Do Your Own Home Repairs? (3) How Do You Choose A Professional Repairman? (4) Tooling Up (5) How To Do Your Own Home Repairs (wallpapering, painting, first-aid plumbing, toilet tune-ups, repairing a leaky faucet, filling cracks around the bathtub and shower, repairing walls, replacing light switches, weatherstripping doors and windows, caulking, and repairing vinyl and ceramic tiles).

OBJECTIVES/ACCOMPLISHMENTS

(1) Utilizing the developed scripts/transparencies, fact sheets, and news releases, 29 consumer educators will participate in inservice training so that they will be able to teach consumer decision-making and home repairs (100% of the consumer educators participated in the inservice training).

(2) 2,000 adults will participate in consumer decision-making and home repair programs. The programs will be provided by Extension home economists and other consumer educators (1201 consumers participated in the program).

(3) Eighty percent of the program participants will increase their knowledge of consumer decision-making and the skills necessary to make home repairs (still collecting information on this objective).

KNOWLEDGE AND INFORMATION USE

To assess the third objective, program participants were asked the following questions in a follow-up survey: What was the most important concept learned in this program? What did you like best about this program? At what level was your knowledge concerning consumer decision-making and home repairs before this program? As a result of this program, at what level was your knowledge of consumer decision-making and home repairs? How did you actually use the program information? What happened as far as your household repairs? Did you do the work yourself or have the work done by a contractor? What was the estimated dollar benefit as a result of participating in this program? All questions contained a likert scale or yes/no response.

ADDITIONAL ACCOMPLISHMENTS

The teaching package titled "Consumer Decision-Making and Home Repairs: Yes You Can Do It" was developed and is available for consumer educators to purchase. Fifteen newspaper articles were written with an estimated readership of 195,000 and thirty-one teaching packages were sold to consumer educators in other states.

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WATER USE AND CONSERVATION IN APARTMENTS

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INTRODUCTION

Conservation of water supplies is increasingly important for many cities, including Tucson. At the same time, the proportion of the population living in apartments in Tucson is increasing. In an attempt to determine why water use per apartment has been increasing, a telephone survey of apartment managers was completed and combined with water use data to estimate demand models of winter and summer water consumption.

DESCRIPTION OF THE APARTMENTS

We drew a stratified random sample of apartments, obtaining 400 complete responses and 76 explicit refusals. Thirty percent of the complexes have low-flow showerheads, 22% have water saving toilets or toilet tank dams and 21% have low-flow faucets. Sixty-one percent have grass and it is more predominant in larger than smaller complexes. Among those complexes with grass, half usually overseed their Bermuda grass (dormant in winter) with rye for a green winter lawn. Of those overseeding last winter, 87% were larger complexes. Nearly 60% of the apartments have swimming pools.

DEMAND MODEL

Marginal prices varied by utility district and season from $.55 to $1.81 per CCF. Additional variables describe the interior and exterior water using features of each apartment. No weather variables are included because the models are cross sectional within a single area.

The specific variables included in the demand models are: Consumption = winter or summer water use in CCFs per month; Marginal Price = cost per CCF per month in dollars (1 CCF = 748 gallons); Tenants Garden = tenants have individual garden areas (1=yes, 0=no); Tenants Wash Cars = tenants are allowed to wash vehicles (1=yes, 0=no); Water Saving Toilets = apartments have low water use toilets or toilet tank dams (1=yes, 0=no); Faucet = low-flow faucets (1=yes, 0=no); Shower = low-flow showerheads (1=yes, 0=no); Grass = winter or summer grass (1=yes, 0=no); Fountains = number of decorative fountains; Complex Size = number of units in complex; Vacant = number of vacant units (Dec. 1988 and June 1988); Age = age of complex.

The demand models explain a large proportion of total water usage as shown in table 1. Water use was significantly reduced by higher water prices in winter but not summer. Water use rose with the age of the apartment complex, which may reflect less water efficient fixtures or irrigation equipment in older complexes.

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TABLE 1 DEMAND MODEL RESULTS

Variable	Water Use Coefficients[2] Winter	Summer
Marginal Price	-1140.9 *	-679.9
Tenants Garden	100.4	263.7 *
Tenants Wash Cars	153.2 *	217.2 *
Water Saving Toilets	-127.0 *	-198.4 *
Complex Size	5.8 *	7.5 *
Vacant Units	-5.4 *	-4.6 *
Age of Complex	3.9 *	4.9
Fountains	-29.9 *	-97.3
Grass	-13.8	106.1
Constant	1858.0 *	1623.2 *
R^2	.77	.72
F	50.7	32.5

[2] Water use per apartment complex in Hundreds of Cubic Feet per Month (CCF)
* Significant at .10 or better

The coefficients for Complex size and Vacant units reflect the average and marginal water use per apartment unit, respectively.

The presence of water saving toilets showed a significant water conservation effect while those for low-flow faucets and showerheads did not. This may result from compensating consumer behavior in response to these fixtures. While the estimated coefficient for summer grass was positive, as expected, that for winter grass, which was expected to be an important determinant of water use, was totally insignificant. The presence of a swimming pool did not appear as a significant variable in the models, perhaps because pools and decks take up space that would otherwise be devoted to grass. The number of decorative fountains showed a negative relationship to water use in both summer and winter. Complexes with desert landscaping may utilize decorative fountains as a substitute for water intensive plants and grass.

CONCLUSIONS

There is wide variation in both indoor and outdoor water conservation features and practices among apartments in Tucson. Therefore, the potential for improving water use efficiency of apartments is great. Many complexes could reduce their use of water intensive landscaping, and water saving toilets or toilet tank dams could be used in most apartments. However, our results suggest that low-flow showerheads and faucets may fail to provide the expected savings in water consumption. Despite the fact that tenants generally do not pay water bills, marginal price is shown to have a substantial impact on apartment water use.

PROFIT RATES OF THE LEADING RETAIL CONGLOMERATES (1959-1987)

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The retail market has become more concentrated over the past twenty-nine years. The giants of the retail market have acquired the smaller independents, or have driven them out of business. These conglomerates enjoy the economies of scale, advanced technology, and mass advertising available to large firms. This study provides an empirical analysis of the level and trend of profit rates of the leading conglomerates over the 1959-87 period. Profit rates of these general merchandise retailers have fallen despite the increased levels of concentration in the market.

PURPOSE

Bluestone et al.(1981) noted in their study that while the structure of the retail market has become more oligopolistic over the 1965-77 period, the profit rates of the leading stores have fallen Nowakhtar and Widdows (1987) studied the seller concentration in the market and also concluded that the general merchandise retail market has become more concentrated over the 1959-83 period. The purpose of this study is to establish whether falling profit rates were experienced by the leading conglomerates despite the increased concentration levels in the market. The period of this study includes the merger mania era of 1984-87 which has made the market even more oligopolistic than before.

DATA SOURCES

The necessary data were compiled from two major sources, namely Fairchild's Financial Manual of Retail Stores, and Standard and Poor's Industry Surveys. Secondary sources were employed where the need arose such as Moody's Industrial Manual, Discount Merchandiser, Chain Store Age, and companys' annual reports.

METHODOLOGY

The approach used in the study is that of industrial organization theory. According to this model, the structure of an industry affects its conduct and conduct in turn affects it performance. The increased level of concentration will affect the pricing and quality policies of these giant firms. These in turn will affect the firm's profitability and the efficiency with which resources are allocated. Industrial organiztion model suggests that high levels of concentration support high levels of profit rates. The ultimate target of the entire retail system, the consumer, will be affected in the end. The hypothesis of the study is then that profit rates of the leading stores have increased. Profit rate, one element of industrial performance, is calculated by the ratio of net income to sales of the stores. These ratios are then regressed against time period 1959-87.

The leading firms in this study are as follows: Sears Roebuck, J.C.Penney, K-Mart, Federated Dept. Stores(acquired by Campeau in 1988), F.W.Woolworth, Gamble-Skogmo(acquired by Wickes in 1980), Gimbels (acquired by Batus in 1973;sold to Allied in 1986), Allied Stores(acquired by Campeau in 1986), May Dept. Stores, Associated Dry Goods(acquired by May in 1986), W.T.Grant(liquidated in 1974), Montgomery Ward(acquired by Mobil in 1982), Carter-Hawley-Hale (acquired by Woodward & Lothrop in 1987).

RESULTS

The hypothesis that the high level of concentration supports high levels of profit rates is denied by the results of this study and so supports Bluestone et al.'s conclusions. Results indicate that all firms, except Allied, experienced negative correlations between time and profit rates. Except three stores(May,K-Mart, and W.T.Grant), all leading firms had negative Pearson Correlation coefficients that were significant; seven at the .01 and three at the .05 level.

CONCLUSIONS AND IMPLICATIONS

Consumers should benefit from declining profit rates of the leading stores in terms of lower prices with higher quality products. The recent increased levels of mergers and acquisitions, however may not be in the consumer's long-term interest. The results of the study are of interest to government agencies such as the Federal Trade Commission which tries to maintain competition in the market.

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FINANCIAL ALLOCATION IN REMARRIAGE: TESTING YOUNG'S MODEL

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A typology for management and allocation of family finances was proposed by Young (1986) based on family income (lower/higher) and wife's employment (homemaker/employed). Young's hypothesis was based on how finances were managed and which spouse controlled financial affairs. Young identified four systems: the whole wage system, the allowance system, pooling and independent management.

Little data are available on the extent of separate financial management systems among married couples. Merfeld (1987) suggested that the Young typology may not fit couples in which one or both partners had been previously married. A study of 16 remarried couples (Fishman 1983) indicated that remarried couples are likely to keep at least some of their financial affairs separate. The decision on whether to pool assets and income may be more likely to arise in remarriages where both spouses have children from previous marriages. With child and spousal support payments complicating financial affairs in remarriage, traditional models of financial management may not be suitable for many remarried couples. The purpose of this study was to determine if Young's typology applies to remarried couples.

The data were collected in 1986 from remarried couples residing in four states: Kentucky, New Hampshire, Utah and Wyoming. Remarried couples were identified from marriage (UT & WY) and drivers license (KY) records in each state except New Hampshire where data are not public. The New Hampshire sample was identified through stepparenting workshops and the snowball technique. Data were collected separately from each spouse via mailed surveys and follow-up telephone interviews.

Due to the way questions were worded the sample could not be partitioned into four mutually exclusive management systems defined by Young (1986). Instead, this study attempted to identify factors which distinguished between couples who pooled their financial resources and spouses who kept their finances separate (independent management systems). Discriminant analysis was used to determine if differences existed between poolers and independent managers based on traditional gender role attitudes, ease of discussing finances, and selected demographic variables.

RESULTS

Demographics: A total of 202 cases were analyzed. The median length of remarriage was 6 years. The majority of husbands and wives were employed; median family income was $20,000-$40,000 and most of the individuals had at least some college education. Median age was 30-39 years (46.4%).

Pooling versus Independent Management: Most (N=170) of the respondents pooled couple finances; 32 kept separate accounts. Three variables were identified by the standardized canonical discriminant function coefficients as being the most powerful discriminating variables between poolers and independent managers: difficulty in discussing finances with spouse (.46), family income (.29) and responses to an attitude statement from the gender roles inventory: married couples should consider all economic resources as being owned equally by both (.73). The discriminant analysis resulted in 82.2% of the cases being correctly classified: 81.8% of the poolers (N=139) and 84.4% of the independent managers (N=27).

DISCUSSION AND CONCLUSIONS

This study examined the classification of respondents as pooling or independent managers. Discriminant analysis revealed differences between the pooling and independent management groups. Independent managers were more likely to report difficulty in discussing finances with their spouses and to have higher family incomes while poolers strongly agreed that married couples should consider all financial resources as being jointly owned by the couple.

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INCOME ADEQUACY FOR ELDERLY AMERICANS BELOW THE POVERTY LEVEL

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Demographic characterics and expenditures of elderly households above and below the poverty line are compared in this preliminary research study. Consumer Expenditure Survey data for one-half of the sample matched for four quarters are used from the 1986 interview survey.

Over the past decade much attention has been devoted to the phenomenon that the number of Americans age 65 and older is increasing rapidly. This trend is expected to continue in the future with demographers reporting that by the year 2040 one out of every five Americans will be over age 65 (Christiansen, 1986).

As the elderly of this country become a larger proportion of the population, the economic status of this group will be of even more concern. Since 1970 the average real income of the aged in the United States increased (Grad, 1984), but the number of the aged in poverty increased, also (Berger, 1985).

For many Americans, the period of highest wealth is during the later years of life. This wealth has been accumulated over their lifetime. For example, more mature Americans are twice as likely to have paid off their home mortgage as the average American household (Lazer & Shaw, 1987). For other Americans, the period of their lowest level of wealth occurs during their later years, because economic hardships or disabilities have depleted their wealth (Berger, 1985). Although Social Security and other government programs provide the elderly with financial support, this may not be adequate.

The issue of adequate income for the elderly with government support is questioned. Many older Americans below the poverty level may not be spending adequately on health care, food, clothing, or other expenditures because they can not afford such items with their incomes.

DATA AND METHOD

Data from the Bureau of Labor Statistics 1986 Consumer Expenditure Survey were utilized to compare the expenditures of the elderly below the poverty level to those of the elderly above the poverty level (USDoL, 1988). The Quarterly Interview panel survey was the component used.

One-half of the sample was matched for four quarters and used as preliminary data. The poverty income guidelines issued by the U.S. Department of Health and Human Services were used as a measure of whether the consuming unit was below or above the poverty level. Chi square analysis and t-tests of means were used to compare consuming units on selected demographic and expenditure categories. Only significant ($p=<.05$) variables are discussed.

FINDINGS

Consuming units below the poverty level averaged significantly smaller families, lower incomes both before and after taxes, but received 2.73 times higher value in food stamps in 1986 than those above the poverty level. Consuming units below the poverty levels had significantly lower expenditures for food, alcoholic beverages, entertainment, health care, personal care, reading, retirement pensions, transportation, and total expenditures than their counterparts.

Households below the poverty line are more likely to be single while their conterparts are more likely to be husband-wife families. Just over one-half of sample below the poverty level is composed of one-person consuming units, and 70% of those above the poverty are two or more person households. Consuming units with non-European decent are more likely to be below the poverty level than their conterparts.

These findings indicate that consuming units differ in characteristics and expenditures when they have incomes above and below designated poverty levels. In additional research, a measure of income adequacy will be developed and used for comparative purposes with the one used in this study. Characteristics, including income, household size, geographic location, and age, will be incorporated into an income adequacy measure. Data also will be analyzed to estimate per capita expenditure differences.

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ECONOMIC ADAPTATION: WHAT CAN THE CONSUMER AREA CONTRIBUTE?

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In assessing level of economic adaptation of recent arrivals to North America, researchers have focused on measuring self-sufficiency, i.e., employment and nondependence on social welfare programs. Having employment, and in particular employment similar to past socio-economic level of employment or that which uses past training, suggests that the individual has achieved economic adaptation.

Another aspect of adapting to the economic setting in North America is learning to function in a consumer-oriented developed economy. Understanding consumerism is an integral part of living in a developed country -- whether the person has a business -- works for a large company -- or buys goods and services as an individual, family, or ethnic group member.

Our process for development of a consumer measure of economic adaptation involves four steps. First, the criteria for selecting appropriate Western consumer practices are identified, and our measure is described. Second, variables related to other common measures of economic adaptation, in particular being employed, are regressed on our measure of Western consumer practices. Third, variables related to employment status and to our consumer practices measure are compared for our subjects to note similarities. Finally, the impact of employment experience on our measure of Western consumer practices is assessed.

Subjects are a one-in-three probability sample of Southeast Asian adult refugees who arrived in a Canadian Western province between 1979-81. Personal interviews by trained bilingual interviewers were conducted within the refugees first 18 months in the new country with a follow-up interview two years later. Only 13% of the original sample were not re-interviewed resulting in 1169 refugees interviewed both times.

The main criterion for selection of Western consumer practices to include in our measure was that they were to be new experiences or ones which would be practiced quite differently in North America and the home country. Other criteria included: the practices were likely to be encountered within the newcomer's first few years in the host country; they were to exemplify consumer practices discussed in Western personal finance textbooks; they were to focus on decisions made about use of income for future financial security as well as use of future income for present wants and needs; and they were to include items "symbolic" of Western consumerism, e.g., the ever-present credit card, and the use of credit, not savings, for purchases. The measure includes six practices (life insurance, property insurance, savings, loans, credit cards, and checking accounts). It was created by counting the number of practices respondents said they used, dividing this number by the total number of practices possible and muliplying by 100. For this composite variable, only the new (i.e., Western) modes of saving or borrowing were counted.

Z-scores for dependent samples showed that the proportion of respondents using the practices had increased significantly ($p < .01$) between the two interviews for all of the practices except saving money.

In regression analyses, the variables commonly related to economic adaptation (English fluency, education, sex, age, and time in host country) were related to use of Western consumer practices at one or both interviews. A comparison of variables related to employment status and to use of Western consumer practices indicated substantial overlap but not complete redundancy.

Employment experience and use of Western practices were assessed. Those who were employed, and especially those who were employed for both interviews showed higher levels of use of Western consumer practices. While employment seems necessary for increased use of the practices, it is not a prerequisite for use of the practices. Those unemployed at both time periods participated in the consumer practices, although at a lower level. Further analyses of the type, level, and stability of employment are required to establish which aspects of employment may serve as threshold criteria for use of Western consumer practices.

To summarize, we found evidence that Western consumer practices are a promising measure of economic adaptation. The evidence is: 1) use of Western consumer practices increased over time; 2) critical variables related to employment status were also related to use of Western consumer practices; and 3) being employed is related to increased use of the practices, but it is not a prerequisite for their use. Using this measure, in conjunction with employment status, provides a more complete picture of the role of newcomers in the economy -- as labor force participants and as consumers. Understanding both roles is critical for understanding economic and cultural adaptation in a developed economy.

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WHO PAYS CHILD SUPPORT?

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Introduction

The financial support of children from private (via parents) versus public (via welfare) sources is a topic under current public policy debate. A recent review of research studies on welfare concludes that 'not enough is known about absent parents (primarily fathers) -- their incomes, family circumstances...their ability to pay child support, etc.' (Interagency Low Income Opportunity Advisory Board, 1988). The purpose of this exploratory study is to focus on those who do pay child support, with an aim of providing descriptive information about the personal, family, and financial characteristics of this population.

Data and Methods

Data are drawn from the 1985 Panel Study of Income Dynamics (PSID). The sample represents a subset of absent parents. All male heads of households who reported payment of child support in 1984 are included in the analysis. Excluded are female heads and absent fathers who did not pay child support. While panel households have been asked to report the amount of child support income since the inception of the study, it was for the first time in 1985 that they were asked to report child support expenditures. Few datasets provide this direct report by an absent parent, but instead must rely on the reports by ex-spouses. Child support payments are measured as the total reported child support paid in 1984. It is assumed that those male household heads reporting payment of child support are absent (non-custodial) fathers. Adjustments for sample design and differential non-response are made in descriptive statistical analyses through the use of weights.

Findings

Table 1 summarizes demographic characteristics of the sample. Most absent fathers who pay child support are employed, white and have post-high school educations. Two-thirds do not have children living with them, while forty-four percent are currently married. On average, $3,490 was paid in child support from a total family income of $36,614. An analysis of variance (results not shown) identifies significant differences (at the .001 level) in the mean annual child support payments of absent fathers when analyzed by marital status, employment status, race, age, education, and income.

Future Work

Current interest in the ability and motivation of absent parents to support their children stems from the growing number of single-parent families headed by women and the fact that the incidence of poverty among them is far greater than in other types of families (Beller and Graham, 1986). The ability and the motivation of absent parents to pay child support needs further analysis. Next steps should include the sample of those parents who fail to provide any support. An ultimate goal is to shape policy that enhances children's economic well-being and treats parents fairly.

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Table 1. Demographic Characteristics of Absent Fathers (Child Support Payers)

Category	Weighted Percentage of Cases	Number of Cases
Family size		
one	38.7	96
two	23.3	76
three	19.2	63
four	11.9	47
five	5.6	23
six or more	1.3	12
Age		
24 years or less	2.2	12
25-34	34.4	130
35-44	46.6	131
45-54	12.4	35
55 or more	.3	9
Number of children		
none	67.5	184
one	14.5	54
two	11.7	46
three	5.1	22
four or more	1.2	11
Marital status		
married	44.1	167
never married	7.0	35
divorced	41.8	84
separated	7.1	31
Employment status		
employed	91.2	288
unemployed	4.2	16
student	1.7	3
retired	1.6	5
disabled, other	1.4	5
Education		
0-8 years	5.5	18
9-11	15.8	58
12	22.3	73
12 plus training	10.3	36
some college	24.0	83
college degree(s)	21.9	48
Race		
white	85.2	187
nonwhite	14.8	128

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OWNERSHIP AND ADEQUACY OF HEALTH INSURANCE AMONG DAIRY FARM FAMILIES

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Farm families are less likely to be insured than most families with working heads. This situation may have been exacerbated by the farm financial crises. Study purposes were to identify the level of health insurance ownership, the perceived adequacy of that insurance, and the reasons why the remaining families were uninsured. The population studied was dairy farm families in Utah. Findings are reported and discussed; implications for education are drawn.

Extension field staff across rural America have indicated that financially stressed farm families were dropping their health insurance (Heffernan & Heffernan, 1986). Based on the clear relationship between stress--financial or otherwise--and illness reported by medical science, this would appear to be an unwise strategy to cut expenses.

The farm financial crises may have exacerbated the generally lower level of health insurance coverage held by farm families. Reports indicate health insurance coverage was about 10% less common among families whose head worked in the farm sector than in white or blue collar families (Cafferata, 1983) and that about 35 million Americans were without health insurance in 1984, an increase of over 20% in 5 years. Half of the uninsured were working, but many small business and self-employed individuals found it too difficult to pay rising medical insurance premiums (Hull, 1986).

The purposes of the study were to identify the extent to which dairy farm families had health insurance coverage, the perceived adequacy of that coverage and the reasons why the remaining families did not have health insurance.

METHODS

The population studied was dairy farm families in the five highest milk production counties in Utah. A stratified random sample was drawn. Two person teams conducted separate, simultaneous interviews with the 116 husband-wife couples in 1986. The response rate was 72%.

Demographically, the mean age of husbands was 51 and wives was 49; the modal education of husbands was high school graduation and wives was vocational school or some college. An average of 1.65 children under age nineteen lived at home. Net 1985 farm income was low; 26% had a net loss, and 36% netted less than $10,000. Net 1985 family income was supplemented from off-farm sources. Only 20% had a net family income of less than $10,000; the modal family income was $30,000. The mean debt/asset ratio, at .33, was higher than the .29 debt/asset ratio of all U.S. dairy farms (USDA 1985). Of this sample, 25% submitted Dairy Termination Program bids; 17% had their bids accepted.

FINDINGS

Only 7% of the sample had no health insurance, while 92% had primary insurance coverage for all family members (comprehensive, major medical or Medicare A & B coverage). In addition to primary health insurance coverage, at least 24% of the families had one or more limited policies for a specific disease or hospitalization. Eleven percent were confident their health insurance was adequate; 38% believed it was adequate; 19% just said yes; 18% reported it was all they could afford; 7% said it was not adequate; and 7% were not insured. The 7% who were not insured included 4% who said health insurance was too expensive, 2% who had not shopped, and 1% other answers.

DISCUSSION AND IMPLICATIONS

The percentage reporting health insurance coverage exceeded that of national studies. A possible reason is the availability of group health insurance from the milk marketing cooperatives to which most of the sample belong. However, for the 17% whose Dairy Termination Program bids were accepted, this option will not be available following herd liquidation. Access to alternate group plans may be a problem.

The study identified a tendency to purchase additional health insurance in the form of limited policies to cover specific diseases or hospitalization. Educational programs might be directed toward evaluating the adequacy of the primary insurance coverage and upgrading primary coverage when needed, rather than buying restrictive coverage for narrowly defined situations.

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FINANCIAL PROBLEMS OF CONSUMERS IN AN URBAN ENVIRONMENT

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A growing number of individuals and families are experiencing financial difficulties in todays complex economic environment. A greater understanding of these financial problems can be obtained by investigating the factors which affect the decision-making process of those who consider filing personal bankruptcy, the use and abuse of credit, and those factors considered by financial counselors in assisting families with financial difficulties.

Factors which have led to financial problems for families or caused them to be unable to pay debts may be gender related or the result of crises. In addition, problems are frequently the result of an unrealistic assessment of ones present or future income and the failure to plan as a family. Researchers have investigated the ratio of debt to income in analyzing the ability of the consumer to repay debt. However, little agreement exists regarding the best measure of ability to repay debt. The focus of this study is to analyze the factors which lead individuals and families to financial insolvency in an urban setting.

METHODOLOGY AND DATA

A study of 291 individuals and families experiencing financial problems who requested legal and financial counseling during 1986 and 1987 in an urban setting was conducted. The subjects of the study completed a questionnaire which provided information about financial characteristics of the individual or family. They were then interviewed by a student counselor to further obtain information which might assist them in solving their financial problems. Financial records provided by the subject were studied to provide a more complete analysis of their financial problems. The respondent then discussed his or her financial situation with the primary counselor who indicated that the debtor might be faced with the sanctions of harassment, cuts in service, repossession or court action. The alternatives which the debtor could consider were explained and included: increase income, decrease expenses, sell assets, negotiate with creditors to reschedule payment of obligations, file Chapter 7 Bankruptcy, file Chapter 13 Bankruptcy or wait with a purpose until other solutions could be found. Data from the 291 respondents was recorded and analyzed. Descriptive statistics, including frequencies and means were used to examine individual and family characteristics and their financial characteristics.

FINDINGS

The marital status of the respondents indicated that 52 percent of the males were married with 33 percent single, 9 percent divorced, and 6 percent separated. Eleven percent of the females were married, 37 percent single, 34 percent divorced, and 18 percent separated. The mean age of the client was 38. The mean monthly gross income was $1,035 for men and $872 for women. The mean monthly disposable income for all respondents was $837. Eighty-five percent were renters while 15 percent of the subjects were home owners. Renters paid 43 percent of their disposable income while home owners paid 64 percent of their disposable income for housing. Many of the subjects were not currently meeting their housing obligations. The mean number of creditors was 7.97. Debts owed in order of magnitude were: (1) banks, (2) finance companies, (3) credit unions, (4) department stores, and (5) medical. The subjects seeking financial counseling had limited assets. The median ratio of total debts to assets indicated that the subject's debts were seven times greater than their asset value. Assets were not available for this group for the payment of debt obligations.

DISCUSSION

This preliminary and descriptive analysis will be used to develop a model showing the relationship between household and financial characteristics of those experiencing financial problems in an urban setting. This analysis can provide insight into the financial management behavior of individuals and families which can be used to provide more effective counseling.

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EXPENDITURES ON FOOD AWAY FROM HOME BY LOW-INCOME HOUSEHOLDS: ANALYSIS USING USDA'S 1985 AND 1986 CSFII DATA

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Data from USDA's 1985 and 1986 Continuing Survey of Food Intakes by Individuals, Low Income, were utilized to estimate relationships between expenditures on Food Away From Home (FAFH) and household characteristics using a household production framework and a Tobit model. The estimated total income elasticity was .59, similar to previous estimates on all low income households. The participation income elasticity (0.33) was greater than the conditional income elasticity (0.26) indicating that the largest increases in expenditures on FAFH due to rising incomes will be from new households eating out.

INTRODUCTION

In recent decades expenditures on food away from home (FAFH) have become an increasingly important component of total food expenditures. This reflects the decline which has occurred in the food at home categories. Expenditures on food at home accounted for 20 percent of disposable income in 1930 compared to 11 percent in 1984. In contrast, the proportion of disposable income spent on FAFH has remained constant at around 4 percent of disposable income (Kurland and Dunham, 1985). This reflects the fact that increases in FAFH expenditures have kept pace with increases in disposable personal income. Thus, expenditures on FAFH accounted for about 30 cents out of each food dollar in 1984 compared to 17 cents in 1930. If historical trends continue, the portion of the food dollar that goes to FAFH will increase.

Analysis of expenditures on FAFH for the low-income population, is important since about 20 percent of the total U.S. population falls into this category (NFCS, CSFII, Report No. 86-1). Low-income households in this study were defined as households with gross income at or below 130 percent of the federal poverty guideline. A literature review revealed that no other studies on expenditures on FAFH by low-income households had been completed.

This topic is particularly relevant since recent and projected demographic trends (e.g. high divorce rates, aging of population) point towards an increase in the proportion of smaller and less affluent households. The results of this study should be of interest to the food industry, farmers, nutritionists, consumers, government policy makers, and, perhaps, others.

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The objectives of this study were to identify factors associated with expenditures on FAFH by low-income households, and to estimate income elasticities of expenditures on FAFH. The study utilized data from the 1985 and 1986 Continuing Survey of Food Intakes by Individuals, Low Income (CSFII-LI), conducted by the United States Department of Agriculture (USDA). The theoretical framework was based on household production theory. The empirical regression model was the Tobit regression model, estimated by the maximum likelihood method using the LIMDEP software package.

THEORETICAL FRAMEWORK

Analysis of the demand for food away from home can take place in either of two theoretical frameworks: traditional demand theory, or household production theory.

The main result of either theory is the derivation of household demand functions for goods and services. In classical consumption theory, quantities of goods and services demanded depend on market prices and the household's income. For empirical estimation purposes, these variables explain only a small portion of the total variation in quantity demanded (Cramer, 1964). The researcher is thus forced to attribute the residual variation in observed demand to differences in tastes. Unfortunately, there exists no theory of formation of tastes to guide the researcher in selecting the appropriate proxies on a-priori grounds. Instead, whatever socio-demographic variables are available are incorporated in the analysis as ad hoc proxies for tastes. Thus, a weakness of traditional theory is that it relies largely on differences in tastes to explain behavior when it can neither explain how tastes are formed nor predict their effects (Becker, 1965; Lancaster, 1966; Michael and Becker, 1973; Muth, 1966.)

By contrast, in household production theory, where the household is thought to be both a consumption and a production unit, quantities demanded of market goods and services serve as inputs into a household production function which yields as outputs final consumption goods. Thus, demands for market goods and services are derived demands for production inputs. Other inputs utilized by the household include household members' time or labor, human and physical capital, and other variables reflecting the environment under which household production takes place.

The household production function model provides some insight into the substitution of time-intensive commodities for goods-intensive commodities as follows:

a. An increase in the wage rate, other factors constant, will increase the opportunity cost of time spent in household production and encourage the substitution of good-intensive commodities for time-intensive commodities in household production.

b. An increase in the number of hours working, other factors constant, will decrease the amount of time available for household production and encourage the substitution of good-intensive commodities for time-intensive commodities in household production.

c. An increase in unearned household income, other factors constant, will increase the demand for household commodities, assuming household commodities are normal goods. Since the total time available for market and household production is limited, an increase in unearned household income will encourage the substitution of good-intensive commodities for time-intensive commodities in household production.

Thus, the opportunity cost of time, time spent in market production, and unearned income will affect the substitution of paid labor for household labor.

One limitation of household production theory is the assumption that there is "no joint production." Household production theory allocates utility to the output and no utility to the time spent in producing the output. For example, in the case of baking a cake, there is no utility attached to the cooking process and only the cake itself yields utility.

From the preceding discussion, it should be clear that the choice of a theoretical framework can significantly affect empirical estimates of parameters. If household production theory is a more realistic description of household consumption behavior, an estimate of the value of the household's time must be included in the empirical specification in order to avoid an omitted variable bias. However, it might be argued that consumption of FAFH is not necessarily less time-intensive than consumption of food at home (Kinsey, 1983; and McCracken and Brandt, 1987). This may be especially true for FAFH at relatively more expensive, sit-down restaurants as opposed to fast-food establishments. In addition, time may be a more abundant resource than money income for low-income households. If this were the case for nearly all low-income households in the sample, then not accounting for the value of time should have no adverse statistical consequences. On the other hand, if a substantial proportion of sample household heads were employed full-time, this may not be a realistic assumption. Thus, the statistically more conservative approach would be to account for the household's value of time in the empirical specification.

DATA SOURCE

Data from USDA's 1985 and 1986 Continuing Survey of Food Consumption by Individuals, Low Income were utilized in this analysis. The CSFII-LI was the first nationwide survey to collect dietary and other information on U.S. low-income households and individuals within sample households year by year. The samples consisted of women 19 to 50 years of age and their children 1 to 5, and were drawn on a yearly basis (NFCS, CSFII, Report No. 85-2; 86-2). Even though information was collected from each participating woman and child for up to six times at approximately 2-month intervals, this study utilized information obtained through personal interview on the first day of the surveys.

The 1985 CSFII-LI 1-day sample consisted of 2,120 women and their children in 1,916 households. The 1986 CSFII-LI 1-day sample consisted of 1,320 women and their children in 1,223 households. Thus, the combined sample consisted of 3,440 women and their children in 3,139 households. The two samples could be combined because the survey designs were identical. Since the purpose of the analysis was to analyze household expenditures on FAFH, only one set of data from each household were analyzed. The personal characteristics were those of the female head, if age-eligible, or those of the household meal planner/preparer, or of the oldest respondent, in that order. Deletion of unusable schedules resulted in 2,886 households being included in the analysis. This was a loss of 8 percent and was unlikely to introduce any noticeable bias into the sample.

SELECTION OF DEPENDENT AND INDEPENDENT VARIABLES

Selection of dependent and independent variables was based on previous research, household production theory and data availability. The dependent variable was the household's usual expenditures per week on food away from home for the two months prior to the survey. Several types of independent variables were used to explain household expenditures on FAFH. These included individual characteristics of the female respondent, household characteristics, household location, and eating places used by the respondent on the day prior to the interview. The model variables and their descriptive statistics are presented in the first two columns of Table 1.

In this analysis, age and education of the female head were thought to be proxies for the household's value of time, its human capital, as well as differences in tastes and preferences. Employment of the female head represented the household's time constraint. The age/sex composition of household members and the presence of a child 1-5 years of age were included to reflect the demand for household services and hence the time constraints faced by the female head. Urbanization and region were included to reflect variations in prices or life styles. Income and Food Stamp Program participation incorporated the household's income constraints. Type of eating establishment was included to distinguish between FAFH as a leisure activity as opposed to FAFH as a time-saving activity. Other variables such as race were used to reflect differences in household tastes and preferences, while tenure was used as a proxy for the household production environment. Three of these variables, household income, age of female respondent, and age/sex composition of family members, were treated as continuous variables. The remaining variables were treated as dummy variables (0 or 1).

TABLE 1. Sample Means and Results of Tobit Regression Analysis (N = 2,886): Linear Functional Form

Variable	Mean	Coefficient	MPC
FAFH	$ 8.37		
Intercept		5.04**	3.16
Income Last Month[a] (per household per week)	$172.01	0.05***	0.03
Food Stamp Participation			
No (=base)	55.8%		
Yes	44.2	-5.55***	-3.48
Age of Female Respondent	32.04 yrs	-0.18***	-0.11
Education			
Below Jr. High	11.6%	-3.22***	-2.02
Jr./Snr. High (= base)	69.0		
Above Snr. High	19.4	2.20***	1.38
Race			
White (=base)	60.1%		
Black	30.4	-0.99	-0.62
Aleut/Eskimo/ American Ind.	4.7	3.21**	2.01
Asian/Pacific Islander/Other	4.8	-1.85	-1.16
Employment Status			
0 hrs./week (=base)	60.8%		
<=20 hrs./week	9.2	1.88*	1.18
>20 hrs./week	30.0	3.34***	2.09
Household Age/Sex Composition			
#children, <1 yr.	0.14	-1.74*	-1.09
#children, 1-5	0.67	-0.41	-0.25
#children, 6-12	0.74	-1.01***	-0.63
#males, 13-18	0.25	-0.33	-0.21
#females, 13-18	0.25	-0.44	-0.27
#males, 19-50	0.60	2.29***	1.44
#females, 19-50	1.11	1.10	0.69
#persons, 51-59	0.08	-1.35	-0.85
#persons, 60+	0.08	-2.18**	-1.36
Presence of Child, 1-5 yr.			
No (=base)	53.0%		
Yes	47.0	-2.18*	-1.36
Presence of Male Head			
No (=base)	46.0%		
Yes	54.0	-1.19	-0.75
One Person Household, Female 19-50 yr.			
No (=base)	96.1%		
Yes	3.9	-1.91	-1.20
Home Ownership			
Own	29.5%	0.69	0.43
Rent (=base)	67.3		
Occupy without payment	3.2	0.05	0.03
Urbanization			
Central City (=base)	40.4%		
Suburb	27.4	0.18	0.11
Nonmetropolitan	32.2	-1.88**	-1.18
Region			
East	22.9%	-1.42*	-0.89
Central	19.6	-2.52***	-1.58
South (=base)	35.2		
West	22.3	-3.65***	-2.29
Eating Place			
Restaurant Only	5.6%	5.31***	3.33
Fast-food Only	10.8	4.00***	2.51
Non-commercial	14.8	1.59*	1.00
Multiple	7.0	7.04***	4.41
At home (=base)	61.8		

[a]Including Food Stamp coupon (bonus) income.
*Significant at 0.10 level.
**Significant at 0.05 level.
*** Significant at 0.01 level.

TOBIT REGRESSION ANALYSIS

Tobit regression analysis was used to estimate the relationship between the dependent and independent variables. This procedure was necessary since a substantial portion of low-income households (about 28 percent) reported no expenditures on FAFH for the two months prior to the survey. The use of ordinary least squares (OLS) to estimate the FAFH model would result in biased and inconsistent estimates because the expected values of the disturbance terms have nonzero means (Amemiya, 1973) and vary with the exogenous variables (Kennedy, 1985). Deletion of nonconsuming households or recoding the zero value to a small positive number would not solve the problem of inconsistency. In addition, elimination of these observations with zero values for the dependent variable from the analysis would reduce the efficiency of the estimates because of the smaller sample size.

Tobit regression analysis is appropriate for a censored sample, where data are available for all observations in the case of the explanatory variables, while data for some observations on the dependent variable are missing. An excellent discussion of the mathematics, uses, and interpretation of the Tobit regression methodology can be found in Kinsey (1984) and need not be repeated here. Note however that Tobit coefficients do not represent the Marginal Propensity to Consume (MPC), as is the case in OLS regression. Rather, the Tobit regression analysis based MPC are the products of Tobit coefficients and the probability that the household's expenditures on FAFH are positive.

The Tobit total elasticity can be decomposed into the "conditional elasticity" and the "participation elasticity." The conditional elasticity is the proportional change in the quantity demanded due to a one percent change in any exogenous variable, for those consumers already in the FAFH market. The participation elasticity is the proportional change in the probability of purchase due to a one percent change in any exogenous variable. For example, an income elasticity can be decomposed into two components: the "conditional income elasticity" and the "participation income elasticity." If the income of all households increases, total expenditures on FAFH will increase. The increased expenditures on FAFH can be explained by two different sources. The first source is increased expenditures by those households who are already in the FAFH market. The second source is expenditures by households who newly enter the FAFH market (Maddala, 1983; McDonald and Moffit, 1979).

LIMITATIONS

In general, there are several limitations to this study which must be acknowledged. These may be related to the theory, the data, and/or statistical methods employed. First, the demand for FAFH in this analysis was treated as a single equation, not as part of a complete demand system. Second, the data on eating places pertain only to eating places patronized by the female respondent on the day prior to the interview. Third, expenditures on FAFH were not available by eating establishment type. Finally, the household's expenditures on FAFH in this study were defined as expenditures on food and beverages that never entered the home. Thus, prepared food, or take-out food, purchased for consumption at home was excluded.

RESULTS

Three functional forms were utilized in the regression analysis; linear, quadratic, and semilog. Selection of the optimal functional form was based on theoretical grounds and statistical results. Based on the likelihood ratio test (a measure to test the significance of all the explanatory variables) and Akaike's information criterion (a measure for selecting an appropriate model) (Amemiya, 1985), the three models performed equally well. This provided a degree of reassurance about the robustness of the empirical model in this study. Hence, by Occam's razor, results from the linear model are presented (Table 1).

Income had a significant and positive effect on expenditures on FAFH. Specifically, an estimated MPC of 0.03 means that when income is increased by one dollar per week, expenditures on FAFH will be increased by three cents per week. Food Stamp Program participation was a dummy variable. The negative estimated coefficient suggested that households in the Food Stamp Program substituted food purchased with food stamps for eating away from home. According to the estimated MPC, Food Stamp Program participants spend \$3.48 per week less on eating out than Food Stamp Program non-participants, on average.

Age of the female respondent had a negative and significant impact on eating out at the 0.01 level of significance. This result suggested that households with older women spend significantly less on FAFH than households with younger women, probably due to differences in life styles. This result is consistent with previous findings (Redman, 1980; Derrick, Dardis & Lehfeld, 1982; McCracken and Brandt, 1987). A dummy variable was used to represent the education level of the female respondent. The Junior/Senior high school education category was the omitted category. The coefficient of below junior high school education was negative and significant. The coefficient of above senior high education was positive and significant. These results support the previous finding that FAFH expenditures increase with the level of education (Derrick et al. 1982).

Race of the female respondent was also coded as a dummy variable. It was significant in only one instance. Households with Aleut/Eskimo/American Indian homemakers spent more on FAFH than households with white homemakers, other things equal. Employment of the female respondent had a positive impact on expenditures on FAFH. This result supports Becker's hypothesis that a time constraint should be included in demand theory and analysis as it indicates that increased female working hours would result in the substitution of market goods for time.

The age/sex composition of the household was significant in four out of nine instances. Households with one more child under 1 year or aged 6-12 or with one more person over 60 years spent less money per week on eating out than other households. In contrast, households with one more male aged 19-50 spent more than other households. Households with a child aged 1-5 spent less on FAFH than other households. This could reflect a behavior problem of pre-school children in restaurants. The three remaining household characteristics - presence of male head, one person household, and home ownership -- were statistically insignificant.

Households in non-metropolitan areas spent less than those located in central cities. This may be due to differences in taste, life styles, as well as geographic price differences. Region was statistically significant in all instances. It appears that households in the southern region of the U.S. had higher household expenditures on FAFH than households in other regions. One reason could be that FAFH expenditure figures in the sample were obtained during the winter months.

The final explanatory variable was eating place. Eating at home was the omitted category. As expected, weekly expenditures on FAFH for households whose respondent reported eating out on the day prior to the interview were higher than other households.

The estimated total income elasticity was 0.59. Thus, when income is increased by one percent the household's FAFH expenditures will be increased by 0.59 percent. The conditional income elasticity was 0.26. This elasticity pertains only to those households that are already in the FAFH market. When their income is increased by one percent their expenditures on FAFH will be increased by 0.26 percent. The participation income elasticity was 0.33 percent. This means that the probability of being in the FAFH market will be increased by 0.33 percent when the income of average households is increased by one percent. The fact that the estimated participation elasticity was greater than the estimated conditional elasticity is in agreement with the results of the McCracken and Brandt (1987) and Lee and Brown (1986) studies. It means that entering the FAFH market due to an increase in household income has a larger impact on total dollar expenditures on FAFH than increases in dollar expenditures on FAFH by households already purchasing FAFH.

Income elasticities obtained in selected previous studies and from this analysis are presented in Table 2. When using Tobit regression analysis, estimated income elasticities were 0.475 (Kinsey, 1983), less than one (Haines, 1983), 0.244 (McCracken & Brandt, 1987), and 0.1-0.3 (Kolodinsky, 1987). The estimated income elasticity in this study was 0.59. When using the OLS regression technique, the estimated income elasticities were 0.31-1.16 (Prochaska & Schrimper, 1973), greater than 0 (Redman, 1980), 0.886-1.633 (Derrick et al., 1982), and 0.81 (Smallwood & Blaylock, 1981). The OLS estimated income elasticity in this study was 0.65. The estimated income elasticities obtained in this study are approximately at the average of the estimated elasticities reported in these other studies on all-income households. These differences in elasticities among studies could be due to differences in data sources, sample characteristics, survey years, FAFH definitions, model specifications, and estimation procedures. Finally, it might have been expected that low-income households would have higher income elasticities for expenditures on FAFH than all-income households. The magnitude of the estimated income elasticities in this study may have been influenced downwards due to the disproportionately high percentage of low-income respondents who reported eating at a fast food or non-commercial (and thus relatively inexpensive) places on the day prior to the interview.

TABLE 2. Comparisons of Estimated Income Elasticities of Expenditures on FAFH Obtained in Different Studies

Researcher	Data Collection Year	Estimated Income Elasticity	
		TOBIT	OLS
Prochaska & Schrimper	1965-66		0.31-1.16
Redman	1972-73		>0
Derrick, Dardis & Lehfeld	1972-73		0.886-1.633
Smallwood & Blaylock	1977-78		0.81
Kinsey	1977-78	0.475	
Haines	1978	<1	
McCracken & Brandt	1977-78	0.244	
Kolodinsky	1980	0.1-0.3	
Hsiu-Wei Yang (Linear)	1985-86	0.59	0.65

SUMMARY AND CONCLUSIONS

The objectives of this analysis were to identify factors associated with expenditures on food away from home (FAFH) by U.S. low-income households, and to estimate income elasticities of expenditures on FAFH.

This research used data from the 1985 and 1986 Continuing Survey of Food Intakes by Individuals, Low-Income, conducted by the United States Department of Agriculture (USDA). The effect of individual characteristics of respondent, household characteristics, and household location on FAFH expenditures were studied using Tobit regression analysis in the theoretical context of the household production model.

In general, the results indicated that household income, education level of homemaker, employment status of homemaker, and number of males aged 19-50 had a positive impact on FAFH expenditures, while the household's Food Stamp Program participation and the presence of a child aged 1-5 had a negative impact on eating out. The Tobit estimated income elasticities (0.59) from the low income sample were approximately equal to the average of such estimated elasticities from other studies on all-income households. An important finding was that the participation income elasticity was greater than the conditional income elasticity indicating that increases in income affect expenditures mostly through increases in participation rather than through increases in current consumption.

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