account for the impacts on electricity use of the excluded end uses such as lighting. Also, r_{33} is not included because there is no variable such as heating degree days (or cooling degree days) in the choice equation for water heating. Despite the small number of parameters, we encountered several problems in estimation. First, data on the annualized fixed costs (K_j) are only available for one year. Consequently, the income variable ($M-K_j$) are highly correlated. Therefore, the following constraints was imposed:

$$r_2 = r_{21} = r_{22} = r_{23}.$$

Furthermore, the two saturation variables for space heating and water heating are highly correlated. The following additional constraint is thus imposed:

$$r_{11} = r_{13}$$

Another constraint is related to climatic variables (Z_j):

$$r_{31} = r_{32}$$

The most troublesome problem is the lack of continuous time-series of appliance saturation data. Further improvement may be made to update the data base to incorporate additional data from the 1980 census. The preliminary results using the current data base are presented in Table 1. With the constraints imposed, the results are reasonable. All the estimated coefficients have the expected sign and small estimated standard errors.

TABLE 1. STRUCTURAL PARAMETERS ESTIMATED BY ITERATIVE WEIGHTED NONLINEAR LEAST SQUARES

Parameter	Estimated Coefficient	Estimated Asymptotic t-ratio
r_0	0.003315	33.5
r_{01}	−0.120504	−1.89
r_{11}	−0.009252	−3.79
r_2	0.070238	3.82
r_{31}	0.00003	3.60
r_{02}	0.010177	1.58
r_{12}	−0.001667	−2.33
r_{03}	−0.020338	0.54

The own-price and income elasticities for the usage equation can be calculated from Eq. (7). Using the sample means of saturation variables (S_1, S_2, and S_3) electricity price (P), and income ($M-k_1$, $M-K_2$, $M-K_3$), and average electricity use per household (X), the computed price and income elasticities for electricity usage (given appliance saturations) are −0.52 and 0.08 respectively.

The application presented in this section is likely a gross simplification of real world aspects of durable saturation and electricity use even though computational requirements are extensive. Nevertheless, the model offers considerably more structural detail than aggregate electricity demand relationships in standard use while tying estimated responses more closely to aggregate data than models based on micro survey data. It further illustrates the complexity of dealing with the demand for durable goods. Specifically, similar to the Dubin-McFadden model, the electric appliances or fuel choice equations specified in the above application remain static rather than dynamic.

CONCLUDING REMARKS

This paper reviews several approaches for estimating the demand for consumer durables. The traditional approach for studying the purchase of a consumer durable is to employ the stock adjustment model. This model is specified by an ad hoc manner but it captures both short-run and long-run demand responses. Furthermore, the stock adjustment model and the similarly formulated flow adjustment models have proved in the literature to be working very well in forecasting (in tems of stability and accuracy).

The paper also analyzed the role of durable goods (e.g. electric appliances) in specifying residential demand for energy in general, and for electricity in particular. Several approaches were reviewed for extending the ad hoc partial adjustment hypothesis to explicitly incorporate the saturation levels of appliances in energy or electricity demand models. The most recent development is to model joint decisions of the choice of energy durables and their intensity of use. The study demonstrated that by specifying a specific functional form for an indirect utility function, the appliance choices and usage equations can be derived. Energy (or electricity) demand can be determined by the choice of appliances (or equivantly the choice of fuels) and their usage. However, it is not an easy task to estimate the joint parameters for choice and use decisions. The area of estimating the demand for consumer durables is a challenging field, and much more needs to be done in this area.

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CONSUMPTION DYNAMICS AND EVALUATION OF ADVERTISING IMPACTS

Daniel S. Tilley, Oklahoma State University[1]

ABSTRACT

Research on the effectiveness of advertising and consumption dynamics is reviewed. Models used for advertising evaluation often have been single equation ad hoc specifications of demand equations that incorporate lagged advertising effects. The conclusions based on these models are short-run analyses. It is suggested that future analyses may need to become multiple commodity oriented and incorporate possible supply response.

Consumption is a dynamic adjustment process as consumers encounter new information and have new experiences. Modeling demand adjustment processes is especially critical when evaluating the impacts of advertising on consumer behavior. Advertising (especially television, radio, and print) is expected to have carryover effects and to develop cumulative impacts.

Advertising sponsored by groups of agricultural producers who collect funds under various state and federal legislative authorizations has been given considerable attention in the public policy arena. New marketing orders for beef, pork and watermelons are included in the Food Security Act of 1985. These are commodities for which supply response to successful promotion and higher prices is quite likely. In addition, the beef and pork orders generate increased advertising expenditures in the "protein" complex where substantial money is already being spent to promote cheese. Similar competition exists among fresh fruits and between vegetable oil based spreads and butter.

Because advertising expenditures are expected to increase under the Food Security Act of 1985, this paper specifically discusses issues associated with advertising programs paid for from funds authorized by state and federal legislation. It is likely that private firms face similar advertising research issues. These similarities are noted in the paper.

The objectives of this paper are:
1. To review the conceptual perspectives from which advertising research has been undertaken;
2. To review the conceptual issues when assessing the impacts of advertising; and
3. To appraise the extent to which these issues and challenges have been met.

Promotion of agricultural commodities supported by funds collected from groups of producers or processors has been referred to as "cooperative" or "generic" advertising. Throughout this paper,

the term generic advertising is used to contrast with branded privately sponsored advertising.

CONCEPTUAL PERSPECTIVES

Research on advertising impacts has been undertaken from three somewhat divergent perspectives. The first perspective is that of public interest. The issues discussed have been related to the impacts of advertising on production and distribution costs, market power and concentration, and beliefs and values (19).

The second perspective from which advertising research has been undertaken is the perspective of the firm or industry paying for the advertising. Generally, groups paying the cost of advertising, whether branded or generic, are most concerned about the impact of advertising on sales or profits. Related issues are the impact on other firms and or products, optimal levels of advertising, and integration of advertising into an overall marketing mix. In some cases the advertising may be directed at a particular consumer problem or perception that is a barrier to increased profitability.

A third perspective is that of the government unit responsible for passing legislation that permits the collection and expenditure of funds for generic commodity promotion efforts. In many cases, concerns include public welfare impacts and the impacts of the advertising on the welfare of the industry for which the advertising is being done. In particular, increased attention will need to be given to cross commodity/industry impacts of advertising given the large number of different food commodity programs that have been initiated.

Research that involves consumption dynamics and is related to the general topic of this symposium has been done from perspectives two and three. Work directed at social concerns has not often been based on the theory of consumer behavior.

REVIEW OF CONCEPTUAL CHALLENGES

Issues associated with using time series data to analyze demand have been discussed for more than 30 years dating back to the early empirical studies by Fox, Foote, Waugh, Holbrook Working and Elmer Working (3, 4, 30, 28, 29). The issues include choice of time period, length of data observation, level in the marketing channel analyzed, demand shifters to include, functional form of the equation, accounting for seasonality, choosing proper deflators, errors in measurement of variables, and determining whether single equation or simultaneous equations are required.

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[1] Associate Professor, Agricultural Economics.

In an industry where supply control cannot be exercised, supply response to higher prices was recognized as an important issue by Nerlove and Waugh (30). They concluded that when supplies are uncontrolled, the economically optimal expenditure on advertising in the long run depends on 1) the price elasticity of demand, 2) the long-run effects of advertising expenditures on demand, 3) the price elasticity of industry supply, 4) the nature and extent of external economies or diseconomies of scale to the industry, and 5) the rate of return on alternative forms of investment (17, p. 814). Nerlove and Waugh present empirical evidence on items 1 and 2 and make plausible assumptions about items 3 through 5. In a later paper, Clement (1) elaborates on the supply response issues. The concept of optimal advertising and allocation of advertising across regions and products was discussed by Hoos (9), Waugh (30), Dorfman and Steiner (2), and Wellman (27).

All of the issues associated with advertising evaluation cannot be discussed in the time and space allowed. Three priority areas selected for discussion are:

1. Theoretical and empirical issues associated with measuring demand response to advertising.
2. Determining whether supply is endogenous or exogenous in the model.
3. Evaluating the impact of changes in demand at the consumer level on other participants in the marketing channel.

Demand Response

Properly specifying a demand equation to measure the impact of commodity advertising in a dynamic situation is challenging. Models that incorporate advertising impacts have most often been single commodity oriented and have not been derived from an underlying utility function that explicitly incorporates advertising or taste changes. The models are often logical specifications of single equations that generally involve specification of a lag structure for advertising. The models are usually estimated with time series or pooled cross sectional and time series data.

Many of the issues are similar to those discussed in other papers in this session. Several issues deserving elaboration when considering advertising models are treatment of competitive commodities, measuring advertising effort, specifying the length and structure of the lagged effects of advertising, and measuring socio-economic or regional impacts.

Treatment of Substitutes. Advertising is designed to have a positive impact on sales of a particular commodity perhaps at the expense of a competing commodity. In addition, demand theory would suggest that prices of substitute commodities should be expected to influence consumption except under very restrictive assumptions. Thus, both advertising efforts and prices of competing commodities are candidates for inclusion in a demand function which is designed to evaluate advertising effectiveness. Some commodity organizations advertise products that are competitors (ie. orange and grapefruit juice). In other situations close competitors are likely to begin receiving increased generic advertising support (beef and pork). Most certainly, questions about the effects of beef promotion on pork consumption and pork promotion on beef consumption are likely to be asked. Companies that produce similar brands of substitute products face such problems both within their company and with their competition.

The existence of substitution relationships suggests that evaluation of advertising needs to become more demand systems oriented. The analyses should not ignore closely related commodities and their advertising efforts. Some theoretical progress in this area has recently been made. Green (6) has proposed an almost ideal demand system (AIDS) that incorporates advertising and cross commodity impacts. In addition, AIDS allows advertising to cause demand to become either more or less elastic. Applications of systems like AIDS will provide more insight into the gains from doing multiple commodity advertising analyses.

Measuring Advertising Effort. Alternative measures of advertising effort include expenditures deflated by some cost index, potential exposures, and actual exposures encountered by specific households. In the majority of the literature, deflated expenditure data are used (7, 11, 12, 13, 21, 22, 23, 26). Generally, no measures are included to monitor changes in the quality of the campaign or strategy. Potential and actual exposures by household members are particularly difficult to estimate, especially for print media advertisements. For television and radio advertising it is possible to estimate actual exposures. Some commercial firms are using unobtrusive ways of monitoring television viewing by individual household members. The cost of these systems is high and results from test markets are difficult to generalize to the U.S. population.

Specifying the Length and Structure of Lagged Effects. The concept of lagged advertising impacts is not new. Waugh (30) was one of the early agricultural writers that described the concept of the advertising decay curve. In the same symposium, Hoos (9) also discussed the importance of carryover effects of advertising. Waugh (30, p. 367) predicted that "...the general concept of a decay curve may open up a big, new field of economic research designed to measure the effectiveness of advertising and promotion." Research to that point had attempted to measure the effect of current advertising on current sales or profits and had often reached negative conclusions. Nerlove and Waugh (17) later published one of the early studies that included the average level of advertising for the previous 10 years as well as current advertising in their demand model.

Waugh's prediction has turned out to be correct. Use of lags has become a frequent and often used technique to measure advertising effectiveness (7, 12, 13, 17, 20, 21, 24, 26). Kinnucan (10, 11) recently summarized the literature on lagged advertising effects and concluded that the theoretical literature gives little guidance. The length and structure of the lag is left to the judgement of the individual researcher. The problem is compounded if competing advertising is included in the model and interaction effects are anticipated.

Measuring Socio-Economic or Regional Impacts. Quite often advertising programs are directed at specific target audiences defined by socio-economic characteristics of the household or at specific regions thought to be particularly good prospects for increased consumption. Questions about the allocation of funds across target audiences (particularly regions) are often asked. One method of responding to these questions is by pooling cross section and time series data.

Pooling involves using repeat observations on elements of a cross section over time. The advantages of pooling depend on the nature of the cross section observed. When households are the cross section, the effect of advertising or promotion on households with particular socio-economic characteristics can be analyzed. When regions or cities make up the cross section, it is sometimes possible to observe a broader range of observations on the advertising effort which may help identify the advertising response. Studies by Ward and Davis (25) and Ward and McDonald (26) are among the best examples of using pooled cross-sectional household and regional data to evaluate advertising effectiveness.

The ability to segment household panel members into groups and apply different television advertising treatments to the groups greatly enhances the possible analyses that can be done by pooling cross-sectional and time series data. Data systems are commercially available to perform analyses of this nature. These systems generally combine the ability to alter cable television to specific households with grocery store scanner data collection systems for those same households. Scanner data collection systems potentially reduce data errors from poor recall but the data are restricted to purchases from stores in which purchases are recorded by scanning UPC codes on packages. The technology is relatively new but it appears that the expansion of the number of firms involved and number of panels available reflects substantial demand for the services offered.

Supply Response

While substantial research has been done on supply response for agricultural commodities, few studies of advertising effectiveness have incorporated supply response in the analyses. An exception to this generalization is a study by Thompson, Eiler and Forker (22). Inclusion of supply response in the analysis reduced the optimal expenditure level. The absence of supply response analysis in citrus can be traced to the length of the lag (5 to 8 years) required to generate additional supplies from new trees and the short-run nature of the analyses. The later work that was done on the Canadian orange juice market recognized the possibility that new supplies would come from competing suppliers (23). In situations in which additional supplies can come from imports, the need to differentiate domestic and foreign sources by advertising may be crucial. In addition, the need to analyze the possible effects of increased supplies from imports must be evaluated even in relatively short-run analyses where domestic supply can generally be assumed to be fixed. In these situations, it would be expected that the natural response would be for generic advertisers to attempt to differentiate their product from the competition. These problems are very similar to those faced by brand owners.

A second problem that generic advertisers may face is the possibility of increased supplies of substitutes. If, in the short-run, high prices and a highly profitable industry result from the advertising, competing product responses may be more rapid. It is possible that for some products (orange juice) the supply response for relatively close substitutes (orange drinks) may be faster than for the product being advertised. For the meat industry, poultry and pork supplies would be able to respond to increased meat demand faster than would beef supplies. Product differentiation is likely to be the key to successful commodity advertising when supplies of relatively close substitutes can be increased more rapidly than can supplies of the commodity being advertised.

For branded products, advertising has been treated as a barrier to entry by competition and assumed to impact on the elasticity of demand. Advertising could also be treated conceptually as altering competitors' supply decisions. It is possible that advertising for a new branded product can create demand for similar products and reduce the cost of entry because the new entrant can concentrate on competitive advertising rather than introducing consumers to a new product concept.

One of the interesting implications of including supply response in the analysis is that advertising may become endogenous to the system since many agricultural commodity advertising programs are often funded from fixed assessments per unit of commodity sold. Generating a supply response then may increase the availability of funds to use for advertising. Thus, advertising is no longer an exogenous policy variable and becomes endogenous to the system.

To summarize, it is clear that the issue of supply response to advertising is not yet resolved and is perhaps not given sufficient recognition by researchers. In particular, the issue of supply response includes supply response of close substitute products as well as the

possibility that imports may provide a source of increased supplies.

Consumer Responses and Producer Payoffs

Farm producers provide inputs that are used in products that are consumed. Other advertisers are in similar situations (aluminum can manufacturers, for example). The question facing producers of raw materials who are paying the cost of advertising the final product is the extent to which the market structure allows those impacts to be transmitted back to those paying for the advertising. As Waugh stated, "Specifically the farmer wants solid statistical facts about the costs of various kinds of promotion, and about their dollars-and-cents effects upon farm income." Myers restated this concern and summarized the research in this area: "Efforts to determine how advertising impact at the consumer level is transmitted back to the producer level have often involved simplistic price transmission relationships (16, p. 177).

In order to respond to Waugh's statement it is necessary to understand the structure of the markets in which advertising is being used. Tracing through these impacts is complicated by the existence of other farm commodity programs designed to restrict supply, and market structures at the retail and processing levels that are not perfectly competitive.

SUMMARY AND CONCLUSIONS

Advertising evaluation has been a topic of discussion for more than 20 years, yet answers to some of the basic questions originally asked are still not available. As a profession, economists have done a great deal of work quantifying the impact of advertising within the context of single equation demand models. If the ad hoc demand function specifications are accepted, then it is possible to answer questions about how much consumer demand has been influenced by commodity advertising.

Many other questions remain. Cross-commodity impacts have not been effectively analyzed in most of the published analyses. Some authors have reported attempts to measure the influence of competing commodity prices and have reported multicollinearity problems (12, p. 104). Most of the analyses are short-run in nature with little concern about possible long-term consequences. Supply response by competing products and the product in question have, for the most part been ignored.

Since much of the research that has been done depends on expensive data sources, the absence of data is almost always an important constraint. A continuing key to improved advertising program evaluation will be the existence of improved data systems. Unfortunately, one of the biggest challenges we face as researchers is generating consistent data sources on advertising effort by commodity class and for the various brands in the market.

Future work will, by necessity, need to involve multiple commodities and systems of equations if the complete implications of the effects of advertising on products for which supply is uncontrolled are to be developed. Recent work on both dynamic demand theory and estimation methodology are likely to provide improved conceptual and empirical approaches to analyses of consumer behavior.

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FAMILY AS A CONSUMING UNIT: OVERLOOKED VARIABLE IN THE MODERNIZATION PROCESS

Revathi Balakrishnan, University of Wisconsin-Stevens Point[1]

Introduction

Modernization, through development programs, is the goal of less developed societies. The family as a consuming unit, in the context of modernization, is the focus of this paper. The objectives are to analyse modernization, the family as a producing-consuming unit within this context, the sources and characteristics of the product input needed for household production, the constraints in obtaining product input and the challenges posed by these constraints.

Modernization, Income Approach and Household Production

Modernization is seen as the change from a 'traditional', pre-industrial state or condition, to 'modernity', through intermediate 'transitional' conditions (8). The ultimate goal of modernization is 'free choice'. "Modernization as a non-economic process originates when a culture embodies an attitude of enquiry and questioning about how men make choices. The problem of choice is central for modern man. To be modern means to see life as alternatives, preferences and choices" (1). The most common means believed to achieve transformation from a traditional to a modern choice-oriented society is to generate income and to raise levels of living aspirations among people of the less developed countries.

Production is the primary objective and generating money income is the approach to improve economic welfare. The assumption is that money income will open up choice alternatives. Such macro-emphasis on production has been transferred to microfamily economics. In Becker's model of household production (3), "Households are both producing units and utility maximizers. They combine time and market goods, via the production function in order to utilize subject to a budget constraint." Following the western trend in the third world countries, the emphasis has been on the study of time input in household production and on economic returns to determine production efficiency.

The second input into the household production model is market goods which is equally important in generating utility. The availability of appropriate market goods has been subassumed under money income. The income approach assumes that households will determine the product mix input through market choice subject to the availability of money income. However, in many less developed societies, there are important exceptions to the assumption: 1) income generation

has not been accompanied with anticipated choices in goods and services in the economy and 2) households belonging to some socioeconomic groups do not always obtain their goods and services through the market choice process. Hence, "Income approach (in economic development planning) has paid a good deal of attention to choice technique, but has neglected the need to provide for appropriate products" (14). Thus from a family-consumer economics perspective, in less developed societies, household production studies should focus on both time input and market goods as inputs. The product mix includes goods and services from private and public sectors obtained through market and non-market processes.

Modernization, Economic Structure and Household Protection

The current phase of modernization in most third world countries can be described as a transitional condition. The transitional societies include some modern-minded people with income and opportunity to exercise free choice. There may be others who are transitional in outlook and attitudes as well as many who are traditionally minded and may have inadequate money income. "The economy also will exhibit dual characteristics. A modern sector variously termed the 'cash, 'monetary', or 'modern sector', and the 'non-monetary', 'household', 'traditional' or 'subsistence' sector" (8).

In the modern sector, the income approach to household production holds well. But the constraints unique to transitional societies may hamper the efficiency of household production. Among the households in the traditional sector, many transactions of goods and services occur through reciprocity, family ties, honor and neighborliness or by subsistence cultivation and barter. In these cases, an income approach to household production is not very useful. An alternative approach is to assess the effect of the available goods and services on the production efficiency of the household.

Consuming Units and Product Characteristics

The producing-consuming units seek products with appropriate characteristics as input for household production. The households, through market or non-market processes, seek products with characteristics to fulfill their needs. "Consumption is an activity in which goods, singly or in combination are inputs and which output is a collective of characteristics. The good, per se, does not give utiliity to consumers; it possesses characteristics and those characteristics give rise to utility" (12).

Assistant Professor

Products can be classified according to their need satisfying characteristics. Bhandari's (4) classification is: products for a) life maintenance, b) productive life and c) psychic and social life. Another classification which reflects similar need satisfying characteristics is: products of a) basic needs, b) comfort and c) luxury. The product input mix will vary in priority, quantity and quality subject to variations in households income, religion, ethnicity, urban-rural residence, and particiapation in modern or traditional sectors of the economy. Though all consumers will need products for life maintenance or basic needs and productive life, consumers with discretionary income will place greater emphasis on products of productive life and social and psychic life.

Product Supply in Traditional and Modern Sectors

In developing societies, products to meet different needs come from the modern traditional sectors. A market economy with money exchange is the most common source of supply for the modern sector. The traditional sector on the other hand, mostly obtains its goods and services through informal and non-money exchanges. The sources of supply and mode of exchange for these sectors are presented in Table 1.

Both modern and traditional sectors depend on private market goods and services, public goods and services and communal resources for product input. In many developing countries emphasis on the monetized market economy has disrupted the supply of goods and services to the households in the traditional sector. For example, emphasis on cash crops instead of subsistence crops eliminates the main source of food for the farm families in Africa; common property resources, such as forests that supplied fuel, disappear due to commercial felling of trees in India.

For households in the modern sector, an inadequate supply of goods and services, indifference to quality of goods and services and inefficient market distribution system can disrupt the availability of products. An example of success in production and failure in distribution is in India where green revolution efforts have produced a surplus of wheat. However, "Government purchased the food grains and does not seem to know how to get it into the stomachs of the underfed millions. The procurement and storage agencies have no warehouse space left and large amounts of wheat are reported to be rotting in the open" (13).

Table 1. Economic sectors and product mix supply sources and mode of exchange in less developed societies

Sector	Product Mix/ Goods and Services		Sources of Supply		Modes of Exchange
Traditional	Life maintenance/basic goods and services	1.	Family/subsistence farms and family enterprises	1.	Exchange of family time and skills
	Productive life/comfort goods and services	2.	Village farms and enterprises owned by others	2.	Contractual exchange agreements: Time and skill exchanged for grains, clothes, etc.
	Psychic/social life/ luxury goods and services	3.	Common property resources	3.	Used by entire community without any exclusive individual ownership or access rights
		4.	Public goods and services market	4.	Government rural development and welfare programs: May or may not involve monetary exchanges through price or tax system (direct or indirect)
		5.	Private goods and services market (local traders, vendors, artisans, etc.)	5.	Direct monetary exchange through price system
Modern	Life maintenance/basic goods and services	1.	Private goods and services market	1.	Direct monetary exchange through price system
	Productive/life/comfort goods and services	2.	Public goods and services market	2.	Direct and indirect monetary exchange through price and tax system
	Psychic/social life/ luxury goods and services	3.	Community services	3.	Direct monetary contribution and indirect tax payment. Voluntary time and skill exchange for community services

Modernization and Inegaltarian Bias in Product Development

Modernization in developing societies seems to be synonomous to industrialization, market economy expansion and a consumption style which emulates affluent societies. Consumers with money income in the modern sector equate rising levels of living with modernization characteristics which reflect a western life style. James (9), identifies this propensity of consumers in the developing societies to regard as superior, goods imported or identified with the west.

In many developing societies, modern sector consumers' needs and wants, backed by effective demand, receive priority over those households in the traditional sector. Such inegalatarian bias in product development is common in developing societies. "In many developing societies, the import and domestic production of over-sophisticated products transferred from relatively high-income and high-saving economies has frustrated the pursuit of a basic needs approach, by catering to the demand of a small section of the population or preempting an excessive slice of the low-income of the poor" (14). As a result there often are inadequate product alternatives for low-income consumers. Austin (2) states, "Those with the greatest effective demand for high quality processed goods are wealthy, who desire 'convenience' aspects and built-in-maid service and those products are tailored to their wants. Thus, the poor consumers may be faced with either a high priced item with many extras built-in or nothing. "Middle level" processed goods, that is those with taste and nutritional value superior to certain non-processed foods in the same category, but without frills, simply do not exist."

The Effect on Household Production of the Characteristics of Product Inputs

Input of products with appropriate characteristics can be analysed as a) input of a single product with inappropriate characteristics and b) input of a product with inappropriate characteristics due to a lack of appropriate complementary products. In both cases, there are important implications for resource allocation and welfare of consumers in developing societies.

The single product case is cigarette consumption; the product mix case is that of drinking water and human waste disposal service. For both illustrations, it is assumed that good health is a desirable output of household production.

Cigarette consumption in less developed societies has been increasing as indicated in Table 2. In the countries with higher per capita money income and higher literacy (U.S., U.K. and Sweden) cigarette sales are decreasing. All developing countries with one exception show increased consumption. The increased consumption will be detrimental to the general health.

From the resource allocation perspective, Smith (15) compares the time in wage labor required to

Table 2. Cigarette use in selected countries

Country	Cigarette use per capita (percent world average)	Change in total Consumption since 1975[a] (percent)
United States	227	0
United Kingdom	152	-27
Sweden	124	- 3
South Korea	186	+45
Philippines	130	+24
Egypt	119	+138
Brazil	104	+17
China	102	+85
Mexico	77	+10
India	56	+33
Kenya	37	+48
Zimbabwe	35	-35
Bangladesh	19	+29

[a]End points are 3 year average
Source: World Watch Institute, 1986

earn income from the purchase of 10 Marlboro cigarettes in various cities. "The packet of 20 cost the San Francisco mechanic 5 1/2 minutes of labor and the manager 2 1/3 minutes; in Bogota, Columbia, 70 minutes and 4 minutes respectively." The income from 70 minutes of labor will be spent by the Columbian mechanic on a product with inappropriate characteristics.

A product mix with appropriate complementary goods and services is often not available to consumers in less developed societies. Drinking water, water for sanaitation needs and waste disposal are public goods essential for child health. Chandler (6) states, "Water plays two important roles in a malnutrition crisis; its shortage reduces not only food production, but also food use efficiency. Contaminated wells, buckets, and pots, along with unpreserved food carry diarrheal diseases into children. When women walk up to three hours to get minimal water supplies, water becomes too valuable for washing and an important defense against infection is lost."

The interrelationships between child mortality, clean drinking water and human waste disposal service is presented in Table 3. Infant mortality is inversely associated with increased availability of drinking water and human waste disposal service. In this context, the sale of artificial baby food can lower the chances of child survival, particularly in traditional sector households. The household production efficiency in many developing societies will improve is products with appropriate characteristics are readily available for households.

The need for appropriate products as inputs into household production has implications for research and action: a) recognition of the importance of appropriate product mix inputs to household production efficiency, b) assessment of the constraints, other than budget constraints, which impede access to appropriate goods and services, c) development of alternative output measures such as health and child survival rates to assess household production efficiency, d) development of consumer education to overcome inegaltarian bias in product development, e)

Table 3. Availability of clear drinking water and human waste disposal service in selected countries, circa 1982

| | Infant mortality (percent) | Share of population with service | |
		Clean drinking water supply (percent)	Human waste disposal (percent)
Bukina Faso	21	31	N.A.
Afghanistan	20	11	N.A.
Angola	15	27	N.A.
Ethopia	15	16	14
Bolivia	13	37	24
India	12	42	20
Pakistan	12	34	6
Turkey	12	78	8
Indonesia	10	22	15
Tanzania	10	46	10
Honduras	9	44	20
Brazil	8	55	25
Mexico	5	57	28
Philippines	5	51	56
Portugal	2.6	73	N.A.
Soviet Union	2.6	76	N.A.
United States	1.2	99	99

Source: L. Brown, et al., State of the World, 1986

development of government policies to eliminate inefficiency in the product and service distribution systems, and to assure the supply of products with appropriate characteristics.

Needs of consumers in the modernization of developing societies must be given greater attention in development planning. National production efficiency measured in Gross National Product growth means nothing unless families have appropriate products, at the right time, at the right place and for affordable prices for efficient household production.

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MEETING CONSUMERS' NEEDS: COMMERCIAL ENTERPRISES
OFFERING ASSISTANCE WITH FINANCIAL CONCERNS

Randolph J. Mullis[1] and Joan Daniels Pedro[2], University of Wisconsin-Madison

ABSTRACT

In light of the rapidly changing financial
services marketplace, concerns have been raised
about the resulting benefit or lack thereof to
consumers. On the surface these changes seem to
be leading in the direction of a financial
services sector consisting of more holistic and
less specialized service providers. Is this, in
fact, the case? Are the financial service needs
of rural consumers being neglected as a result of
the trend toward holistic services? Answers to
these and other questions were sought in Wiscon-
sin and are presented in the following research
report. The research reported here is the third
year of a project funded by the Wisconsin Agr-
cultural Experiment Station entitled, "Use of,
Satisfaction With, and Need for Financial Ser-
vices: A Comparison of Rural and Urban Adults."

INTRODUCTION

The financial services marketplace has undergone
and continues to undergo a significant change of
complexion. Single service institutions are
being replaced by multiple service institutions.
State institutions are being replaced by regional
institutions and in the future will likely be
replaced by national institutions. Services once
exclusively offered by traditional financial
institutions such as banks and thrifts are now
being marketed by retail establishments and stock
brokerage firms as well. Traditional financial
institutions are providing insurance and stock
brokerage services. Financial planning,
counseling and management services are being
marketed at a feverish pace all across the U.S.
Large insurance companies and stock brokerage
firms are re-titling their employees with names
such as financial planners, financial consultants
and the like. This trend suggests that financial
service providers are capitalizing on consumers'
needs for holistic financial planning and are
attempting to provide a mix of products and
services to meet those needs. How much progress
has been made toward developing commercial
enterprises that have a product/service mix that
addresses the need of consumers for holistic
financial assistance? Has this trend resulted
in the neglect of rural consumers by these
hybrid institutions? Are there differences in
the products and services offered by the
specific financial institutions to rural and
urban consumers? The purpose of this study was
to search for answers to these questions and

other questions that have important implications
for consumers of financial services in Wisconsin.

REVIEW OF LITERATURE

A body of popular and scholarly literature serves
as a forum permitting the examination of the
changing nature of the financial services
industry. Debates continue about the impetus for
the current changes occurring in financial
institutions. Kane [8] identifies the impetus as
the market instead of government deregulation,
which he says only reacted accommodatingly to
what was already in motion. Stetson [14], on the
other hand, attributes the metamorphosis to
government deregulation, indicating that the
eventual phase out of Regulation Q has spawned
experimentation in the financial services indus-
try. Regardless of the impetus for change, the
important questions are: what form has the
change taken, and how will consumers be affected?

The form of change taken varies across financial
service providers. Tax preparers such as H&R
Block are experimenting by marketing personalized
money management services to help the average
American family [9]. Real Estate brokerage firms
are consolidating with other financial-service
institutions to provide a quasi-full line image
[5,14]. Companies in the steel, oil, electronics
and retailing industries have acquired financial
service companies [13]. The most publicized of
the retailers entering the financial services
industry and the one thought to hold the most
potential is Sears. Banks and insurance com-
panies are also considering strategies to in-
corporate a wider range of products and services
[6,2,17].

A major impetus for broadening services among
financial institutions has been the burgeoning
popularity of financial counseling and planning.
Independent financial planners and counselors
have saturated most cities. Attempts to vali-
date the competence of this group have prin-
cipally taken the form of a registry of finan-
cial planning [12] and certification associated
with correspondence courses. Financial planning
professionals come from a variety of backgrounds,
have differing approaches to charging for ser-
vices, target different client groups, and vary
in products and services offered [10,3,4,16].

Despite high levels of activity to develop
innovative services among financial-service pro-
viders many people are concerned about segments
of the population whose financial service needs
are going or may go unmet. Relatively recent
national polls suggest that "cracks" exist in the
delivery of financial services [1,7]. Concerns

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[1] Assistant Professor of Consumer Science.

[2] Former Assistant Professor of Retailing.

about the quality of available services have been raised, indicating that few individuals and families receive holistic analysis and guidance. Rather, they obtain help in bits and pieces from many different organizations [18]. In spite of these concerns, little empirical work has been generated that examines the financial services industry to verify or dispell notions about the inadequacy of existing or evolving services. In response to that void, research was initiated at the University of Wisconsin-Madison and the results are reported here.

METHODOLOGY

This research report summarizes a survey conducted in the third year of a three-year project entitled "Use of, Satisfaction With and Need for Financial Services: A Comparison of Rural and Urban Adults" [11]. The objective of the third year, as set forth in the original proposal, was to determine which commercial firms/agencies presently provide financial services to Wisconsin's consumers and whether they differ by the rural/urban character of the county of their location. Several methodological steps were taken to accomplish this over-all objective.

First, a set of third year specific objectives were developed and included identifying: the commercial providers of assistance with financial concerns; types of assistance provided by each firm (i.e. products and services provided); the target groups or clientele of each enterprise; the primary users of the services; the training, experience and licensing of employees providing assistance; the method used to determine fees; whether or how outside consultants are used; formats used to provide and complete delivery of assistance; evaluation of assistance delivered; extent to which providers require and/or provide continuing educational opportunities for employees who deliver assistance. Results related to the first two aspects of the third year specific objectives will be reported and discussed below.

Next, careful consideration was given to identifying the population of interest. Since the group of general interest was commercial enterprises offering assistance with financial concerns, the population was narrowed down to include ten different financial service providers. Included were adjustment service companies, banks, brokerage firms, credit unions, finance companies, financial planners, insurance agencies, real estate companies, savings and loan associations, and tax preparers. In part, these groups were determined by household responses to a question in the second year survey regarding the financial institutions to which consumers turn for assistance. A mail questionnaire was developed by the principal and co-principal investigators, in consultation with the project's advisory committee, that would address each objective. After several drafts of the questionnaire were developed and revised, it was pilot tested by representatives of each of the

ten subgroups from the population of interest.

Sampling

Since a major purpose of the study was to examine rural and urban differences among financial-service providers, it was necessary to identify sampling frames from which to draw representative samples for each commercial enterprise in the population of interest. This was accomplished by locating different lists including all Wisconsin commercial enterprises falling within each category of the population and identified by location (i.e. SMSA or Non-SMSA). For example, in the case of banks the Rand McNally International Bankers Directory, U.S. Masters 2 (1983 edition) was used from which main offices in 74 SMSA's and 37 Non-SMSA's were randomly sampled by use of random number tables. Similar procedures were followed to identify samples for each of the other nine groups in the population of interest resulting in a total sample of 615 financial-service providers representing the ten types of firms. The questionnaire was addressed to the president or manager of the firm/agency

TABLE 1.   Sampling Distribution of Rural/Urban Commercial Firms That Provide Assistance With Financial Concerns (Response Rate in Parentheses).

Agency	Urban Firms	Rural Firms	Total
Accountancy Firms	30 (46.6)	15 (60.0)	45 (51.1)
Adjustment Service	9 (66.6)	1 (100.0)	10 (77.8)
Bank	60 (56.6)	30 (60.0)	90 (57.8)
Brokerage Firm	60 (50.0)	15 (46.6)	75 (49.3)
Credit Union	60 (58.3)	30 (76.6)	90 (64.4)
Finance Company	30 (50.0)	15 (53.3)	45 (51.1)
Financial Planners	30 (53.3)	15 (33.3)	45 (46.7)
Insurance Agency	60 (46.6)	30 (56.6)	90 (50.0)
Real Estate Agency	30 (30.0)	15 (53.6)	45 (37.8)
Savings & Loan	60 (55.5)	30 (70.0)	90 (60.0)
Total Firms Sampled	420 (52.3)	195 (60.0)	615 (54.8)

TABLE 2. Financial Products Offered by Agencies or Firms That Assist Clients With Financial Concerns.

Financial Products	Accountancy Firm	Adjustment Agency	Bank	Brokerage Firm	Credit Union	Finance Company	Financial Planner	Insurance Agency	Real Estate	Savings & Loan
No product offered	21.7%	85.7%	0.0%	10.8%	0.0%	4.3%	23.8%	6.7%	23.5%	0.0%
Annunity	8.7	0.0	9.6	56.8	1.7	0.0	66.7	57.8	5.9	55.6
CD/treasury note	0.0	0.0	98.1	43.2	70.7	0.0	14.3	0.0	11.8	75.9
Closed end credit	0.0	0.0	80.8	5.4	86.2	56.5	0.0	0.0	0.0	74.1
Credit insurance	0.0	0.0	86.5	2.7	89.7	91.3	0.0	11.1	0.0	59.3
Credit card	0.0	0.0	76.9	10.8	69.0	4.3	0.0	0.0	5.9	79.6
Disability or health insurance	4.3	0.0	59.6	35.1	93.1	60.9	57.1	84.4	0.0	64.8
Life insurance - term or whole	4.3	0.0	40.4	56.8	39.7	39.1	71.4	93.3	11.8	59.3
Medical insurance	4.3	0.0	11.5	27.0	3.4	4.3	42.9	75.6	0.0	18.5
Money market accounts	4.3	0.0	94.2	54.1	70.7	0.0	52.4	4.4	11.8	96.3
Mutual funds	4.3	0.0	7.7	75.7	0.0	0.0	66.7	22.2	11.8	3.7
NOW/share draft or savings accounts	0.0	0.0	96.2	8.1	94.8	0.0	0.0	0.0	0.0	100.0
Open end credit	0.0	0.0	65.4	2.7	82.8	21.7	0.0	0.0	0.0	51.9
Property-liability insurance	4.3	0.0	23.1	5.4	10.3	26.1	19.0	80.0	5.9	50.0
Real Estate	0.0	0.0	9.6	40.5	41.4	13.0	38.1	8.9	76.5	46.3
Stocks/bonds	0.0	0.0	44.2	59.5	6.9	0.0	38.1	0.0	11.8	11.1
Tax sheltered investments	4.3	0.0	34.6	73.0	46.6	0.0	71.4	20.0	41.2	68.5
Tax preparation	82.6	0.0	7.7	2.7	10.3	4.3	23.8	0.0	0.0	0.0
Trust services	0.0	0.0	34.6	16.2	0.0	0.0	4.8	0.0	0.0	3.7
Wire transfer of funds	4.3	0.0	90.4	21.6	70.7	0.0	4.8	2.2	5.9	64.8
Other	39.1	14.3	17.3	16.2	19.0	4.3	9.5	4.4	5.9	14.8
(n)	(23)	(7)	(52)	(37)	(58)	(23)	(21)	(45)	(17)	(54)

Note. Question # was 2. All tests used nine degrees of freedom.
All relationships are significant at $p < .01$.

and was to be filled out by her/him making the firm the unit of analysis.

RESULTS AND DISCUSSION

Out of 615 questionnaires mailed, 337 useable questionnaires were returned for a response rate of 54.8% (see Table 1). The response rate for financial-service providers was 52.3% for urban subjects and 60% for rural subjects. Since comparative and descriptive information was of interest, responses to questions were handled in a dichotomous (yes/no) fashion and contingency table analytical methods were used to examine the statistical relationships of the data.

Initial analyses (chi-square) indicates no statistically significant differences between rural and urban financial-service providers with respect to the products and services they provide. This finding indicates that the financial service needs of rural and urban consumers are being met in a similar fashion. This finding

may be explained by the fact that the evolutionary process is still in an embryonic stage in which form any real differences in services provided by rural and urban financial service providers are not detectable. Or, rural financial service providers are participating in the evolutionary process to the same degree as their urban counterparts.

Given the finding of no statistically significant differences between rural and urban respondents, these two groups were combined for additional analyses. Further analyses compared the actual frequencies of products and services provided by the ten categories of providers with the expected frequencies. The findings are contained in Tables 2 and 3. The numbers in the tables represent the percent of respondent firms indicating an affirmative response for each of the questions about specific products and services provided. Chi-square statistics, based on 10x2 contingency tables, were computed to test whether or not statistical differences existed between providers for each product or service asked about.

TABLE 3.   Types of Assistance Offered by Agencies or Firms That Assist Clients With Financial Concerns.

Types of Assistance	Agency / Firm									
	Accountancy Firm	Adjustment Agency	Bank	Brokerage Firm	Credit Union	Finance Company	Financial Planner	Insurance Agency	Real Estate	Savings & Loan
Satisfying basic needs	4.3%	28.6%	13.5%	8.1%	13.8%	30.4%	14.3%	20.0%	29.4%	20.4%
Managing overdue bills and debts	8.7	100.0	19.2	2.7	53.4	39.1	9.5	0.0	0.0	13.0
Getting credit or refinancing loans	13.0	42.9	88.5	0.0	94.8	78.3	9.5	0.0	17.6	88.9
Collecting payments owed to you	4.3	0.0	19.2	0.0	12.1	26.1	0.0	2.2	0.0	9.3
Use of services that add to available income	0.0	28.6	3.8	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Protecting consumer interests	4.3	0.0	5.8	0.0	6.9	17.4	0.0	2.2	5.9	0.0
Getting along when out of work	8.7	57.1	21.2	2.7	36.2	26.1	14.3	17.8	0.0	22.2
Financial decisions after divorce or death or spouse	21.7	28.6	25.0	37.8	34.5	30.4	61.9	15.6	11.8	25.9
Budgeting	13.0	100.0	34.6	10.8	43.1	39.1	38.1	6.7	5.9	16.7
Using credit wisely	8.7	85.7	69.2	8.1	93.1	56.5	28.6	0.0	11.8	37.0
Obtain basic insurance protection	8.7	14.3	28.8	16.2	10.3	17.4	61.9	86.7	17.6	46.1
Keeping financial records for taxes	78.3	14.3	19.2	16.2	6.9	4.3	42.9	0.0	0.0	5.6
Claiming SS or pension benefits	8.7	0.0	7.7	5.4	3.4	0.0	33.3	2.2	0.0	5.6
Picking someone to help with financial matters	30.4	28.6	34.6	24.3	20.7	17.4	47.6	4.4	29.4	11.1
Learning about ways to invest in IRA's, Keoghs	56.5	0.0	90.4	83.8	81.0	0.0	95.2	53.3	11.8	92.6
Making a will, handling an estate	4.3	0.0	25.0	18.9	8.6	0.0	33.3	4.4	0.0	3.7
Talking with household about finances	13.0	42.9	32.7	21.6	31.0	13.0	28.6	17.8	5.9	9.3
Planning a major change	30.4	28.6	23.1	35.1	10.3	8.7	81.0	15.6	11.8	18.5
Starting a savings program	8.7	71.4	92.3	40.5	94.8	8.7	71.4	8.9	5.9	94.4
Selecting life insurance, annuity	4.3	0.0	11.5	59.5	5.2	4.3	95.2	80.0	5.9	94.4
Choosing investments	39.1	0.0	48.1	81.1	20.7	4.3	95.2	6.7	41.2	40.7
Conserving income by effective tax planning	65.2	0.0	28.8	59.5	5.2	0.0	95.2	15.6	17.6	13.0
Estate planning	17.4	0.0	21.2	51.4	3.4	0.0	81.0	11.1	11.8	7.4
Establishing long term plans	17.4	14.3	30.8	62.2	15.5	8.7	81.0	13.3	17.6	22.2
(n)	(23)	(7)	(52)	(37)	(58)	(23)	(21)	(45)	(17)	(54)

Note.   Question θ was 3. All tests used nine degrees of freedom.

X^2 for first type of assistance is not significant.

X^2 for protecting consumer interests significant at $p < .05$

X^2 for the remaining types of assistance significant at $p < .01$

Firms do differ, as has been the case traditionally, in the type of products offered to consumers. As seen by examining Table 2, similarity of products provided does exist for certain firms. For example, Banks, Credit Unions, Finance Companies and Savings and Loans are all providers of credit insurance whereas the other agencies or firms do not make the product available. However, it is clear that specialization of products is still predominate among financial service providers: accountancy firms in tax preparation; adjustment companies deliver no products; commercial banks, credit unions and savings and loan associations are principally involved in delivering products which have traditionally been provided by them; brokerage firms in investment

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related products; finance companies in providing credit related products; financial planning firms specialize in providing a combination of investment, risk-management and tax-management products; insurance agencies principally provide risk management products; and real estate companies principally provide real estate related products.

Even though specialization is evident in the data, some signs of firms moving in the direction of providing a fuller range and greater variation of products making for more holistic treatment of consumers' needs do exist in the data. For example, some accountancy firms are branching out by offering risk management and retirement planning products; commercial banks, credit unions and saving and loan associations are providing a greater variety of investment vehicles and are branching out into risk-management tax planning and retirement planning products; insurance agencies are incorporating some investment vehicles into their product mix.

Table 3 contains data indicating the types of assistance provided by financial-service firms. Categories of assistance were included based on categories used in the projects second year questionnaire responded to by consumers. Statistically significant differences were found to exist between firms for types of assistance offered with one exception. Respondents from each firm perceived their respective firm as offering financial assistance geared toward satisfying basic needs. As a result of this common perception, there was statistical difference between firms for this category of assistance. This is an interesting contemporary commentary on what is perceived by financial service providers to be basic needs in our society or how they perceive their services as directly related to such needs.

The differences in assistance between financial service providers support the premise that the financial service industry has not become a sector of firms characterized by homogeneity of assistance with financial concerns. Yet even in the presence of such differences, it is apparent that many providers offer a wide array of assistance. While some accountancy firms do perceive themselves as assisting consumers' with a variety of concerns, the services of most firms are concentrated in the tax planning area. Adjustment agencies are involved in providing assistance directed at helping consumers manage debt and other remedial concerns. Commercial banks and credit unions perceive that they provide an array of assistance that includes all of those listed in Table 3. It is apparent from scanning the columns of data representing banks and credit unions that many of the types of assistance are available at only a small number of these offices.

Brokerage firms are principally involved in providing assistance with investment related concerns. But a few brokerage firms do indicate a much broader array of assistance. Most

finance companies are involved in providing consumers assistance with credit needs but many indicate that they provide assistance with a number of other concerns. Insurance agencies are principally involved in helping consumers with risk management related concerns although many indicate diversity in many other areas represented by the list of concerns. Relatively few real estate agencies provide much of the assistance represented in Table 3. The last group, saving and loan associations, while principally involved with providing assistance related to traditional S&L services, many indicated a greater amount of diversity than would be expected.

CONCLUSION

Data were collected from a stratified-random sample of 337 rural and urban Wisconsin financial-service providers. Preliminary answers to many questions resulted from analysis of the data. In the first place, evidence was not found in the data to support rural/urban differences in delivery of assistance with financial concerns. Financial-service needs of consumers in rural and urban areas of Wisconsin are being addressed in a similar fashion by comparable urban and rural financial-service providers. This result may only indicate that traditional services are the same and that many new services have not yet had a chance to be established by providers of financial services in Wisconsin. Only time will reveal whether innovation in financial services will be uniformly distributed across the state into both rural and urban areas.

A second important result gleaned from these data is that firms differ significantly in the products and services offered to Wisconsin consumers. Data contained in Tables 2 and 3 suggest that traditional product and service differences exist based on type of institution. Widely reported similarities of products between firms are not yet evident for the firms examined. However, it does seem to be the case that many of the firms examined in this research are showing signs of incorporating a broader array of both products and services. Such a direction holds promise for consumers in that they are more likely to have their financial service needs addressed in a more holistic fashion by firms with greater diversity of products and services.

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EMERGENCY FUND HOLDINGS OF U.S. HOUSEHOLDS: EVIDENCE FROM A PARTIAL
EQUILIBRIUM ANALYSIS OF SURVEY DATA.

Richard Widdows and Dixie Porter Johnson[1]
Purdue University, West Lafayette, Indiana

ABSTRACT

A recursive least squares model incorporating normal or permanent income is used to estimate partial equilibrium of emergency funds for U.S. households for the 1983 Survey of Consumer Finances. The impact of emergencies on the equilibrium is evident. The recursive technique allows examination of determinants of normal income, and demonstrates the relationship between socio-demographic variables and normal income.

INTRODUCTION

In a recent paper, Johnson and Widdows [5] showed that, for the majority of U.S. households, emergency fund holdings were below the three months income equivalent recommended by financial planners. Furthermore, emergency funds, measured as a proportion of household pretax income, had fallen over the period 1977 to 1983. The authors concluded that there may be cause for concern in these findings.

The Johnson and Widdows study was essentially descriptive in nature. While it added to the profile of the current state of consumer finances being developed through analysis of surveys of consumer finances [1,2], it said little about the relationship between observed emergency fund levels and their desired levels. The recent decline in emergency fund levels constitutes a crises for U.S. families only to the extent that emergency funds fall below their desired levels [3].

This paper complements the previous study by Johnson and Widdows by estimating desired levels of emergency funds and then investigating the impact of emergencies on fund holdings. The technique used is one developed by Dunkelberg and Stafford (4) in a study of debt in the consumer portfolio. Desired levels are represented by partial equilibria in regression equations estimated on a disaggregated basis using evidence from a panel study. The approach captures the essence of the more complex stock adjustment models, and is less cumbersome than a generalized portfolio equilibrium model. In addition, the results enable direct comment to be made on the relationship between certain socio-economic aggregates and income levels of households.

THE MODEL

Desired levels of emergency funds are regarded as being principally determined by a household's normal (or permanent) income. That is, there exists an equilbrium level of emergency funds for

households that is directly related to household income. In the short run, the actual level of emergency funds can deviate from the desired level depending on current events taking place in the household. More specifically, there is a series of events termed emergencies which can arise in the short run and cause emergency funds to fall below their desired or equilibrium level. Emergency events include crises such as unemployment, marriage breakdown, and ill health [8]. Emergency funds can also be maintained to allow for unexpected opportunities, such as the chance to purchase a consumer durable or investment instrument at unexpectedly favorable terms [6]. In subsequent periods, barring additional emergencies, the emergency fund level will be built up to its desired level.

For the purpose of this study, three alternative proxies for emergency funds are used as dependent variables. These alternatives reflect the fact that emergency funds can be held in assets of varying degrees of liquidity. The first measure, labeled Quick Emergency Funds in Table 2, comprises checking accounts, savings accounts, and money market accounts, all of which are assets that can be turned into cash at very short notice. The second measure, Intermediate Emergency Funds, adds to Quick Funds the value of savings certificates held by the household. The third measure, Comprehensive Emergency Funds adds to Intermediate Funds other financial assets, namely stocks and bonds, which could be encashed to supplement the more liquid assets in Intermediate Funds should the latter prove inadequate to meet needs. It is the most comprehensive of the three measures of emergency funds in terms of range of liquidity of included assets.

The equilibrium emergency fund level can be represented as follows:

$$EF = f(YN; E1, E2, \ldots, En, CF1, CF2, \ldots, CFn) \quad (1)$$

where EF is emergency funds, YN is normal income, El through En are short-term emergency events, and CF1 through CFn represent other confounding factors in the relation between emergency funds and normal income, to be explained below.

Following Dunkelberg and Stafford, equilibrium normal income is determined by socio-demographic factors in the household's environment. Normal income reflects factors that the household regards as determining its long run capital or wealth. These factors include such things as skills and training of household members, location of the household, and nonhuman wealth holdings. That is:

$$YN = g(SD1, \ldots SDn) \quad (2)$$

where YN is normal income and SD1 through SDn are salient socio-demographic characteristics of the household.

[1]Both authors are Assistant Professors, Department of Consumer Sciences and Retailing.

Observed income will differ from normal income by transitory components, often termed windfall gains or losses. That is:

$$Y = YN + YT \qquad (3)$$

where Y is observed, or actual household income and YT is transitory income.

Sources and Methods.

Equations (1) and (2) were estimated in the following forms:

$$EF = f1 \; (YN; \; UN, \; HE, \; MB, \; SE, \; YT, \; CC, \; H) \qquad (1a)$$

$$YN = g1 \; (LC, \; HHE, \; HHS, \; RACE, \; REG, \; URB, \; NHH) \qquad (2a)$$

where
- UN = 1 if household head or spouse was unemployed, otherwise 0
- HE = 1 if health of either spouse was poor, otherwise 0
- MB = 1 if spouses were no longer living together, otherwise 0
- SE = 1 if the household had to borrow to meet short-term expenses, otherwise 0
- CC = 1 if the household held certain types of credit cards and professed a readiness to use them for emergencies, otherwise 0
- H = 1 if the household owned its own home, otherwise 0
- LC = life cycle stage of household
- HHE = number of years of education of head of household
- HHS = 1 if sex of head of household was female, otherwise 0
- RACE = 1 if head of household was white, otherwise 0
- REG = region of U.S. in which household was located
- URB = 1 if household was in a rural district, otherwise 0
- NHH = number in household

If households seek to maintain an equilibrium level of emergency funds at a fixed percentage of household income, then the relationship between the dollar amounts of emergency funds held by households and household income will be direct and linear. It therefore is hypothesized that the relationship between emergency funds and normal income will be positive. Unemployment, state of health, marital breakdown and short-term expenses, being emergency events, are hypothesized to be inversely related to emergency fund levels. Transitory income, ownership represent other confounding factors in the relation between emergency funds and normal income.

Transitory income is hypothesized to be directly related to emergency funds in the short run. Positive transitory income, which represents sudden windfall gains, constitutes a resource for the purchase of liquid assets to replenish or build up emergency funds. Negative transitory income may offset by drawing on emergency funds. Over a cross-section of the population, these responses to windfall gains and losses would show up as a positive relationship between transitory income

and emergency funds.

Attention has been drawn to the growing use of credit cards as a convenience in transactions [7]. Revolving credit can represent an alternative to cash, checking accounts, savings accounts, and the like for meeting expenses in the short run. It follows from this that a household faced with an emergency could choose to use these reserves either in addition to or instead of emergency funds. As such, access to revolving credit can influence the relationship between emergency funds and normal income.

It will be assumed here that those who use revolving credit as a substitute for emergency funds had incorporated this into their desired emergency fund holdings decision. For this group, the variable EF above should then comprise liquid assets and revolving credit. The measurement of EF adopted for this study (see below) does not allow for this, however. The measure adopted here comprises only the liquid assets portion of emergency funds. For any income level, the group of respondents who use revolving credit in emergencies would thus show up as having less EF funds than they possess in fact. Because of this, the presence of an indicator variable for access to revolving credit should show a negative relationship with emergency funds in equation 2a.

Home ownership is expected to be positively related to emergency funds in that possession of a home necessitates the holding of a greater portion of family income for unexpected expenses. Normal or permanent income is the prime determinant of equilibrium value of emergency funds throughout; the other independent variables represent shift parameters.

It is expected that race, family size, and education will be positively related to permanent income; sex and rural dwelling will be negatively related to permanent income. Life cycle stage, education, and region are expected to be nonlinear in their relation to permanent income. Life cycle stages identified here are young, growing, declining, and retired. The cut off points are determined by age of the head of household. Ages 15 through 29 constitute young, 30 to 44 growing, 45 to 64 declining, and 65 and over retired [9]. Region is determined by geographic location of the household, with the U.S. divided into North East, North Central, South, and West. Education is expected to be quadratic in its relation to permanent income, reflecting varying pay-offs at the margin to additional years of education. Accordingly, a term representing the square of years of education (HHEQ) was added to the equation.

Data for the study were taken from the 1983 Survey of Consumer Finances conducted by the Michigan Survey Research Center. The Survey, a representative sample of 3824 U.S. households, has been described extensively elsewhere [1].

RESULTS

Results are presented in reverse order by equation

because equation 2a needed to be estimated first, in order to provide the normal income independent variable for equation 1a.

According to financial analysts, the three months income equivalent referred to earlier is calculated for take-home household income; income net of personal taxes. The 1983 Survey did not include questions related to taxes paid by respondents however. Income data used in this study are therefore pretax. Analysts are not clear on whether the income figure used should be total income or earned income. Accordingly, Table 1 contains results of estimation of equation 2a using total and earned income alternatively as dependent variables.

Results presented in Table 1 show that the equation with total income as dependent variable provided a better fit of the data than did the equation with earned income as dependent variable. The equation with total income as dependent variable produced higher values for the F statistic and R-square of the relation. The regression coefficients for sex, education, race, and number in the household were of the expected direction and significant at least the five percent level in each equation. The rural dwelling variable also had the expected sign, but was significantly different to zero only in the total income equation. A term containing the square of education had a negative sign and was significant at the one percent level.

For the dummy variables for life cycle and region, the excluded variables were the retired stage of the life cycle and the North East region respectively. In the case of life cycle, the peak earnings years of the declining family stage (LC3) showed a significant positive relationship to income in both equations, suggesting that these families had significantly greater earned income than retired families, while young families had significantly less total income than did retired families. The region variables were not significantly different to zero on either equation.

The fact that income data were in dollar amounts allows straightforward ceteris paribus interpretation of some of the regression coefficients in Table 1. Thus, female headed households on average had $12,645 less of total income and $13,420 less of earned income than did male headed households. White families had $5,502 more of total income and $5,427 of earned income than did non-white families. Urban families had $3,685 more of total income than did rural families. Finally, families whose head was in the peak earning years of the life cycle had $3,963 more of total income and $10,429 more of earned income than did retired families, while young families had $11,849 less of total income than did retired families.

Regression coefficients in Table 1 were used to predict normal income of households. Predicted normal income appeared as an independent variable in equation 2a. Results of the estimation of equation 2a are shown in Table 2.

Equation 2a (Table 2) was estimated first with total normal income as independent variable, then with earned normal income as independent variable. For all three measures of emergency funds, the equation fitted data better when total normal income was used as independent variable rather than earned normal income. Indeed, the regression coefficient for earned normal income was not significantly different to zero at the five percent level for any of the emergency fund measures. Total normal income was directly and significantly related to all three measures of emergency funds.

Three of the four indicators of emergency events (UN, HE and SE) had the hypothesized inverse relationship with emergency funds in all versions of the earned income equation, but were not always significantly different to zero. Only the short-term borrowing variable (SE) consistently had the expected sign in the total income equations. Results of the earned income equation indicate that a household faced with unemployment would, ceteris paribus, reduce Quick Emergency Funds by about $1,200 and Quick Funds plus savings certificated (Intermediate Funds) by about $4,000.

The marital breakdown variable was positive in sign and significantly related to emergency funds in all of the total income equations, but varied in sign and was not significant in the earned income equations. These contradictory findings may be attributable to the inapposite nature of the proxy for marital breakdown rather than any perversity in the relationship between marital breakdown and emergency fund holdings. The questionnaire requested information on marital status of the household, allowing identification of households that had suffered death, divorce, or separation. Unfortunately, no time element was available. It may be that the breakdowns had not occurred recently enough for the impact on emergency funds to be measurable.

Transitory income bore the expected positive relationship to emergency funds in all equations estimated, and except in one case (Quick Funds and earned transitory income), was significantly different to zero at at least the five percent level. This relationship was expected, and indeed is the essence of the permanent income hypothesis.

In all but one equation (Comprehensive Funds in the total normal income equations), home ownership bore the expected positive relationship with emergency funds and was significant at the one percent level. Credit card holding was also significant, but the sign varied between the two sets of equations. On the total income equations, credit card holding bore the expected negative relationship to emergency funds, indicating a tendency among families to use revolving credit as an emergency fund. Results of the earned income quations, however, pointed to a positive relationship between revolving credit and emergency funds.

Results of the earned income equations, however, pointed to a positive relationship between revolving credit and emergency funds. Those respondents who owned cards and professed a willingness to use them in emergency situations actually had higher equilibrium emergency fund holdings than other respondents. This runs counter to the hypothesis that consumers use revolving credit as an alternative to liquid assets as a means of holding emergency funds. That a positive relationship should have emerged in equations where earned income appeared as an independent variable points to degree of sophistication in consumer attitudes toward revolving credit, a fruitful avenue for further study.

CONCLUDING COMMENTS

A recursive regression process allowed estimation of the equilibrium relationship between normal income and emergency funds, and enabled a measure of the relationships between socio-demograhpic characteristics of consumers and income, and emergency events and diversions of emergency funds from their equilibrium levels. Estimated relationships between socio-demographic characteristics and income were generally as expected from earlier analysis of survey data [1,2]. Unemployment, the need to borrow to meet short-term expenses and, in the earned income equations only, poor health caused significant diversion of emergency funds from their equilibrium relationship to total normal income.

Equations using total income generally fitted data better than did those using earned income. The implication is that consumers are more cognizant of total income when assessing their financial position. This was the case also where the relationship between revolving credit and emergency funds was concerned. At the same time, equations with the Intermediate Funds measure of emergency funds as dependent variables provided strongest evidence consistent with expected relationships between emergencies and emergency funds. This finding implies that consumers met emergencies principally by running down these intermediate liquid assets.

Finally, although results are confined to one sample year, they are sufficiently instructive to confirm the usefulness of this approach to the study of panel data. Future work will investigate wealth effects on emergency fund holdings, and incorporate a two-stage least squares approach to overcome possible simultaneous equations bias in the single equation studies.

TABLE 1. Estimation of normal income of households.

Variable	Total Normal Income	Earned Normal Income
Life Cycle 1	-11849.2** (1854.9)	-978.1 (3319.2)
Life Cycle 2	-2580.4 (1877.0)	9559.6** (3359.2)
Life Cycle 3	3963.4** (1763.2)	10429.3** (3149.1)
Education	3324.6** (1229.2)	2569.7** (408.8)
Square of Education	-30.7** (2.3)	-24.0** (4.1)
Sex	-12645.2** (1264.2)	-13420.2** (2255.0)
Race	5501.7** (1399.9)	5427.3** (2492.3)
Region 1	1835.4 (1721.4)	2223.6 (3068.8)
Region 2	-730.2 (1593.6)	3336.5 (2841.6)
Region 3	-1019.6 (1557.2)	1688.1 (2777.9)
Rural/Urban Living	-3685.4** (1149.0)	-1318.2 (2049.2)
Number in Household	1460.9** (370.3)	1189.8* (660.1)
Unearned Income		.001 (.010)
CONSTANT	-11790.4** (3088.0)	-17918.0** (5507.8)
R^2	.21	.07
F	51.04**	13.90**

**=.01 *=.05

TABLE 2. Estimation of the relationship between emergency funds of households and total normal income, earned normal income.

	Quick emer. funds	Inter-mediate funds	Compre-hensive funds	Quick emer. funds	Inter-mediate funds	Compre-hensive funds
Total normal income	.158** (.015)	.492** (.038)	1.784** (.156)			
Earned normal income				-.006 (.018)	-.057 (.047)	-.028 (.199)
Transit income	.155** (.007)	.502** (.018)	2.246** (.073)	.003 (.002)	.015* (.006)	.091** (.002)
Unemp'ment	-609.0 (582.4)	-1741.4 (1484.9)	1213.1 (6138.4)	-1220.0* (625.4)	-3634.0* (1660.1)	-8129.2 (6977.7)
Short-term expenses	-657.6 (665.0)	-3568.4* (1695.7)	-8296.5 (7009.4)	-713.7 (712.0)	-3567.8* (1890.7)	-9609.2 (7943.1)
Health	103.6 (657.5)	2639.3 (1676.5)	12487.0* (6930.4)	-1269.9* (681.5)	-2397.5 (1809.7)	-6149.7 (7603.0)
Marital break	1671.7** (480.9)	6364.2** (1226.1)	17787.0** (5068.5)	82.8 (498.6)	1071.9 (1324.0)	-1397.8 (5562.6)
Credit cards	-758.9* (441.8)	-2019.2* (1126.6)	-15364.2** (4657.1)	1594.7** (455.6)	5410.4** (1210.1)	13962.4** (5083.8)
Home owner	1230.4** (415.6)	2618.4** (1059.8)	-5702.8 (4380.8)	2704.3** (458.0)	7654.8** (1216.3)	13677.3** (5109.7)
CONST.	-822.2 (480.1)	-4599.5** (1224.3)	-19796.5** (5060.8)	1396.9** (481.4)	2702.4* (1278.4)	3866.7 (5370.7)
R^2	.19	.27	.28	.03	.04	.02
F	76.08**	118.90**	122.66**	11.58**	14.74**	6.06**

**=.01 *=.05

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MEASURES OF ECONOMIC WELL-BEING
HUSBAND AND WIFE CONSENSUS

Mari Wilhelm[1] and Donna R. Iams[2], University of Arizona

INTRODUCTION

The need for appropriate indicators of family economic well-being has been established (7,9). Considerable effort has thus been made to identify measures which can correctly assess a family's economic well-being (3,4,7,8,9,10,13). The results include both objective and subjective measures. Due to the high cost of research it is common to survey or interview only one family member. Concern exists, however, over the consensus between husbands and wives when responding to questions asked by the researchers (1,2,5,6,11,12). The purpose of this paper is to explore the agreement between the husband and the wife on various measures of economic well-being.

The remainder of this paper includes a brief discussion of the conceptualizations of economic well-being and the needed measures. Also included is a brief review of literature on husband and wife consensus. The samples were selected from two separate studies in which participants were asked to provide answers to similar questions.

CONCEPTUALIZATION OF ECONOMIC WELL-BEING

Research involving economic well-being appears to focus on three conceptualizations : income adequacy, economic security, and perception of economic well-being. Moen (7) suggested that indicators of well-being consist primarily of objective and subjective measures both of which can provide indicators of actual well-being and relative well-being. Income adequacy and financial security are operationalized using objective measures. Probably the most simple indicator of actual income adequacy is based only on a measure of income from wages, salary and other sources. Frequently this value is adjusted to reflect the needs of a household for that income compared to other households based on size and composition (8). Some researchers have compared a family's income during one year to that family's income during the past year to achieve an indicator of relative deprivation (3,7).

Despite the increased specificity of the income to needs and relative deprivation ratios, they do not necessarily reflect the long term or potential economic resources of a family. A measure of economic welfare was used by Weisbrod and Hansen (13) to assess potential income or an objective measure of financial security. This indicator was derived by adding current annual income to a lifetime annuity value calculated from current net worth, life expectancy, and rate of return. In addition to the measure of income, measures are needed for the value of a family's assets and liabilities.

There is concern that objective measures of income, be they measures of short term adequacy or long term security, do not reflect how an individual feels about the economic resources available. Subjective measures of well-being have been found to be as important, if not more so, than objective indicators of economic well-being. Perceptions of income can reflect short or long term well-being as well as well-being relative to the past, the future and relative to others.

A major regional research project, "Patterns of Living Related to Income Poverty in Disadvantaged Families" was instrumental in the development of indicators on perception of income adequacy. Another major regional study, "Quality of Life as Affected by Area of Residence" utilized those and other satisfaction indicators (4). Household members were questioned concerning their perception of the adequacy of their income; their satisfaction with various aspects of economic life such as standard of living, prospects for retirement, housing, and networth; and their perception of their future financial status.

Most measures of perceived well-being consist of one or two items designed to elicit satisfaction with a specific aspect of well-being such as level of income, level of debt, amount of savings, or prospects for retirement (4). Others have explored well-being using several items designed to elicit satisfaction with material goods or satisfaction with resources in general (10).

[1] Assistant Professor, School of Family and Consumer Resources

[2] Assistant Professor, School of Family and Consumer Resources

HUSBAND AND WIFE AGREEMENT

Previous research has indicated that agreement of husbands and wives on various demographics and attitudinal survey questions cannot be relied upon (4,2,11,12). Ballweg (1) distinguished between nonevaluative, or hard data, and evaluative or soft data. Specifically, he studied the responses of 179 couples to two questions -- one considered hard data and on soft data. As expected considerable differences were found between couple consensus. The question dealing with family income was viewed as hard data and was found to have husband and wife consensus greater than 60 percent of the time. The soft data question was concerned with which parent had the final say in child discipline. Only 23 percent of the couples were in agreement in their responses to this question. Fairly high levels of husband and wife consensus on income also were observed by Ferber (5) and Haberman and Elinson (6).

Several studies also have looked at consensus between husbands and wives on various attitudes. Byrne and Blaylock (2) concluded from a study of 36 married couples that similarity in political attitudes and in more general attitudes existed among these couples. Van Es and Shingi (12) studied the consensus of 324 husbands and wives on twenty-five attitude questions. They concluded that where attitudes are concerned it should not be assumed that either the husband or the wife can represent the whole family. They noted, however, that when the attitude is somewhat culturally determined more consensus occurs among husbands and wives.

Safilios-Rothschild (11) studied 160 families from Detroit. Detroit husbands' and wives' responses about decision making showed that less than half of the couples agreed or slightly disagreed on their responses. This meant that actual serious disagreement was found in 55.1 percent of the cases.

METHODOLOGY

The data for this paper were collected during two separate research studies. The Tucson, Arizona sample is based on a random selection of the general population whereas the Bagdad, Arizona sample consists of couples experiencing unemployment. Specifics on the data collection for each group follows:

Tucson Sample. Names and addressed of one thousand Tucson area residents were selected randomly from the Tucson, Arizona metropolitan area telephone directory using a table of random numbers. Two identical questionnaires were sent to each address during the summer of 1984. A letter accompanying the questionnaire requested that, when applicable, two adult household members each complete a questionnaire and return it in the self

addressed, stamped envelope. A follow-up reminder was sent two weeks following the initial mailing. Due to the sensitivity of the financial focus of the questionnaire a small return was expected. A 21-percent return rate was obtained resulting in 211 households represented. Of that number 70 or 33-percent were from husband and wife couples. The resulting sample of seventy couples somewhat overrepresented white/anglo families.

Bagdad Sample. Bagdad, Arizona was selected for an intensive study of several families who had recently experienced the unemployment of the primary breadwinner due to major layoffs from the Bagdad Cyprus Copper mine. The economic structure of Bagdad had been built around the mine.

This sample is made of two groups: those who remained in Bagdad following the layoff and those who moved within three months of the layoff. The couples who remained in Bagdad participated in an interview and completed questionnaires. The couples who had moved completed only the questionnaires. A total of 44 couples participated in the study. Information on the Bagdad sample can be obtained from the authors.

MEASURES

Objective Measures Identical questions were included on the questionnaires given to both the Tucson and Bagdad samples to provide objective measures of economic well-being. Income measures were obtained by asking respondents to write-in the amount of wages during 1983 for the male income earner, the amount of wages during 1983 for the female income earner, and the amount of income during 1983 from all additional sources. Expected income measures were obtained by asking respondents to write-in the amount of income expected during 1984 for the male income earner and for the female income earner.

Dollar value of assets and liabilities were obtained. Participants were first asked to indicated whether or not their family had a series of thirteen types of savings and investments and then to write-in the total dollar value of these investments. Respondents also were asked to write in the current dollar amount of their checking account, the market value of their car(s) and the market value of their home. Finally, the respondents were asked to write-in the dollar value of the outstanding balance on the home mortgage and also the amount of their personal debt.

Subjective Measures. All measures of subjective well-being were answered using a likert type response set. Four questions designed to assess individual perception of economic well-being were similar for both samples. Those questions were designed to determine perception of well-being relative to the past, the future, and other families.

The Bagdad sample also received a series of questions concerned with the participants satisfaction with various economic factors including level of income, money for necessities, ability to handle financial emergencies, amount of debt, amount of savings, and money for the future.

In addition to the four subjective measures of relative well-being the Tucson sample received questions concerned with perception of income adequacy, satisfaction with level of living, and perception of present economic status. Two satisfaction indices were included on the questionnaire given to the sample of Tucson residents. The first index consisted of 14 items to which families frequently allocate their money. Respondents were asked to indicate, using a 5-point scale, satisfaction with their ability to acquire these items. The second index designed by Rowland and Nickols (10) consisted of 29 resources frequently available to families. Respondents were asked to indicate agreement or disagreement (on a 5-point scale) based on their opinion of the adequacy of those resources for their family.

FINDINGS

Objective Economic Measures

When examining mean scores husbands as a group tended to report higher levels of actual and expected income than did the wives as a group. Husbands also tended to report higher values for their financial and tangible assets. This pattern was consistent for the reporting of debt by the Bagdad sample. Wives in the Tucson sample reported higher personal debt than did their husbands (Table 1).

Table 1. Mean Scores of Husband and Wives as a Group on Objective Measures of Economic Well-Being. Tucson and Bagdad Samples.

Economic Measures	Tucson Sample		Bagdad Sample	
	Mean Score Husbands	Mean Score Wives	Mean Score Husbands	Mean Score Wives
1983 Male Income	$23,318.03	$18,294.03	$26,024.17	$24,545.18
1983 Female Income	$6,698.04	$6,663.50	$3,755.55	$3,239.43
1983 Additional Income	$7,859.71	$4,318.84	$8,300.59	$8,766.67
1984 Expected Male Income	$24,271.88	$20,598.12	$14,911.06	$13,623.81
1984 Expected Female Income	$6,625.93	$6,194.81	$2,398.56	$3,123.44
Dollar Value of Investments	$46,669.29	$34,016.74	$21,030.51	$18,842.24
Dollar Value of Checking	$3,860.60	$781.06	$459.19	$469.26
Dollar Value of Cars	$7,070.00	$6,260.15	$5,896.34	$6,296.34
Market Value of Home	$83,634.29	$77,656.72	$11,873.83	$8,522.73
Amount Owed on Mortgage	$33,348.15	$31,348.15	$7,105.00	$3,205.00
Total Amount of Personal Debt	$5,988.64	$6,972.57	$8,251.79	$4,561.13

When using Pearson's Correlation, individual couples from both samples had moderate to high levels of agreement on the amount of income earned by each. Similar correlations resulted for the responses of husbands and wives concerning expected amounts of income for the upcoming year. Husbands and wives also agreed on the dollar value of their tangible assets (car and home). Agreement on the amount of money in the checking account was low, yet significant, for the Bagdad sample. However, responses of the Tucson residents resulted in a negative correlation between the responses of the husband and the responses of the wife on this measure. This relationship was not significant. Husbands and wives also agreed on the amount owed on their mortgage. Correlations were significant, yet low, on their agreement of personal debt levels (Table 2).

Table 2. Pearson Product Moment Correlations for Husband and Wife Responses on Objective Measures of Economic Well-Being.

Economic Measure	Tucson Sample	Bagdad Sample
1983 Male Income	.6828*	.5214*
1983 Female Income	.9633*	.7935*
1983 Additional Income	.5457*	.8646*
1984 Expected Male Income	.6892*	.8138*
1983 Expected Female Income	.9518*	.6105*
Dollar Value of Checking	-.0186	.3334***
Dollar Value Investments	.4821*	.9235*
Market Value of Home	.9288*	.8384*
Amount Owed on Mortgage	.9620*	.4053**
Total Amount of Debt	.2991**	.4053**

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

Subjective Economic Well-Being. When examining mean scores in the Tucson sample, couples were in fairly close agreement. Husbands as a group had just slightly less satisfaction with their present economic situation (adequacy, level of living, comparison of financial situation compared to the last five years) than did the group of wives. This same group of husbands, however, was more likely than the wives to report positive comparisons between their family and