

Are Consumers Forward-Looking, Backward-Looking and/or Liquidity Constrained? An International Analysis

Our investigation of the relationship between income and consumption expenditure show that: (i) consumers' expenditure and income follow a cointegrated path. (ii) Tests of the implication of the random walk model reject this model for all of the OECD countries in the sample but the US and Germany. (iii) Estimates of an *ECM* representation support an implication of *liquidity constraints* for most of the countries in the sample.

Manouchehr Mokhtari, University of Maryland¹
Janet Wagner, University of Maryland²
Mamak Ashtari, Sumitomo Corporation³

Introduction

During the last decade, empirical analyses of the consumption function have centered around two rival models. The first model, that of Hall (1978), is based on the rational expectation hypothesis, which maintains consumers to be *forward-looking*. Hall's model is derived as a stochastic implication of the life cycle-permanent income hypothesis and *requires* consumption to follow a random walk process (*RWH*). The second model, that of Davidson, Hendry, Srba and Yeo (*DHSY*) (1978), maintains that consumers are *backward-looking* and *requires* income and consumption to have an error correction mechanism (*ECM*) model. Mokhtari (1992) presents the *ECM* as an alternative model of U.S. clothing expenditures. Fox (1995) summarizes the relevant econometric methodology underlying the estimation of *ECM* models. It can be shown, however, that if *DHSY*'s model is the true data-generating process, then *RWH* model can be selected incorrectly as the appropriate representation of data (Davidson and Hendry, 1981). This complicates the task of selecting an appropriate model from the two opposing models of consumer behavior.

In this paper, cointegration techniques and Mokhtari's (1994) proposed test are used to provide empirical evidence on the relationship between income and consumption expenditures. Using these techniques, we test for various hypotheses about consumer behavior. We test the maintained assumptions in the *RWH* and the *ECM* models of consumer behavior on a country-by-country basis for 11 OECD countries. Similarly, a test of *liquidity constraints* is conducted.

This paper is organized as follows. First, we provide a description of the theoretical models. Second, we present the time series properties of the data. Third, we test for the maintained assumptions in the *RWH* and *DHSY*. Finally, a test for *liquidity constraints* and our conclusions are presented.

Forward-Looking Behavior

Define permanent income (Y_t^p) as the annuity value of total wealth, where the latter consists of the present discounted value of expected future real labor income (W_t^l) plus non-human wealth (W_t^n), then Y_t^p is:

$$Y_t^p \equiv r(I+r)^{-1}W_t^l + rW_t^n \quad (1)$$

where, taste is assumed to remain constant over time and consumers have an infinite horizon. The interest rate (r) is also assumed to be constant. This is a reasonable assumption since as Bryant (1990, p.109) notes:

"Both earlier and later data are consistent with the idea that the substitution effect of changes in interest rates, while consistent with economic theory, is quite small."

Given Y_t^p , maximizing expected utility then implies equality of consumption (C_t) to Y_t^p , *i.e.*,

$$C_t = Y_t^p \equiv r(I+r)^{-1} \left[\sum_{i=0}^{\infty} (I+r)^{-i} E_t Y_{t+i}^l \right] + r \left[(I+r)W_{t-1}^n + (Y_{t-1}^l - C_{t-1}) \right] \quad (2)$$

where, Y_t^l is labor income and, E_t is the expectation

operator, conditional on the set of information held by the consumer at time t , the first bracket $[.]$ is the present discounted value of expected future real labor income (W_t^l), and the second bracket $[.]$ is non-human wealth (W_t^r).

Given that, with the exception of stochastic labor income, other variables are known with certainty at time t , change in C_t depends on the deviation of actual labor income (Y_t^l) from its expected value ($E_{t-1}Y_t^l$):

$$C_t - C_{t-1} = Y_t^l - E_{t-1}Y_t^l = \eta_t \quad (3)$$

where, η_t is a white noise (*innovation*) process in permanent income which contains information not known at time $t-1$. In other words, C_t follows a random walk process (Hall, 1978):

$$C_t = C_{t-1} + \eta_t \quad (4)$$

This requires C_t to be integrated of order one, $I(1)$, (*i.e.*, a nonstationary process), so that ΔC_t is integrated of order zero, $I(0)$, (*i.e.*, a stationary process). Stationarity of ΔC_t is a desirable and testable assumption in many studies of *forward-looking* models of consumption (C_t). But a stronger implication of the *RWH* model is that ΔC_t should not be predictable from the lagged functions of the available information, *e.g.*, Y_{t-1} ; failing this test could be caused by the existence of liquidity constraints (Hall, 1978). This also makes C_t to appear too sensitive to Y_t . Appearance of Y_t in the consumption function, coupled with a distributed lag representation for permanent income, yields a fairly general distributed lag model that nests many aspects of *forward-looking* behavior among consumers.

The *RWH* model is consistent with the idea that C_t and Y_t follow a cointegrated path; hence, they have an *ECM* as their statistical representation. Campbell (1987) shows that intertemporal optimization implies that saving ($=Y_t - C_t$) equals the negative of the sum of the present value of expected *changes* in labor income series, *i.e.*:

$$Y_t - C_t = -\sum_{i=0}^{\infty} (1+r)^{-i} E_t \Delta Y_{t+i}^l$$

If $Y_t^l \sim I(1)$, then $\sum_{i=0}^{\infty} (1+r)^{-i} E_t \Delta Y_{t+i}^l$ is $I(0)$, and therefore, $(Y_t - C_t) \sim I(0)$, given $C_t \sim I(1)$. In effect, C_t and Y_t , each following a random walk process, can form a linear combination that is (cointegrated) stationary. Additionally, since Granger's representation theorem (Engle and Granger, 1987), proves that cointegrated variables have an error correction representation, an *ECM* model of C_t and Y_t is also consistent with the *RWH*

model and its underlying assumption that consumers are *forward-looking*. Similarly, if Y_t is decomposed into a random walk component Y_t^p and a stationary component (the transitory income, Y_t^t), then $C_t = Y_t^p$ implies $C_t - Y_t = Y_t^t$ which is a stationary process by assumption; *i.e.* C_t and Y_t are cointegrated with $[1, -1]$ as cointegrating vector.

Backward-Looking Behavior

Direct application of Philips's (1954) *feedback* control rules (borrowed from control engineers) to the consumption process yields *DHSY*'s version of the *ECM* model of consumption. *DHSY*, in effect, present *ECM* as the *structural* model of C_t . This is obtained when ΔY_t and $(Y_{t-1} - C_{t-1})$ are used to explain short-run changes in C_t :

$$\Delta C_t = \beta_1 \Delta Y_t + \beta_2 (Y_{t-1} - C_{t-1}) \quad (5)$$

where β_1 and β_2 are interpreted as the parameters of *derivative* (ΔY_t) and *proportional* ($Y_{t-1} - C_{t-1}$) control mechanisms, respectively. This *structural* interpretation of the *ECM* model assumes a limited degree of rationality and sophistication for consumers (Davidson and Hendry, 1981).

Popularity of the *ECM* representation as a natural route for data base modeling derives from the fact that autoregressive distributed lag specifications that are fairly general can be rearranged to yield an *ECM* look-alike formulation. For example, rearranging:

$$C_t = \gamma_1 Y_t + \gamma_2 Y_{t-1} + \gamma_3 C_{t-1} + v_t \quad (6)$$

where $v_t \sim NI(0, \sigma_v)$ and γ s are constant parameters, yields:

$$\Delta C_t = \gamma_1 \Delta Y_t - \alpha (C_{t-1} - \psi Y_{t-1}) + v_t \quad (7)$$

where, $\alpha = (1 - \gamma_3)$ and $\psi = (\gamma_2 + \gamma_3) / \alpha$. In contrast with (5), where $\psi = 1$, (7) imposes no restriction on the long-run response of C_t to Y_t , so that ψ can be estimated from the data. Engle and Granger argue that if C_t and Y_t are $I(1)$, then a significant α implies that C_t and Y_t are cointegrated with $[1, -\psi]$ as the cointegrating vector. Note that, generalization of (7) to higher order autoregressive distributed lag models is a straightforward procedure.

Another important feature of the *ECM* model is that changes in consumption ΔC_t are influenced by past disequilibrium or mistakes ($C_{t-1} - \psi Y_{t-1}$); hence, *backward-looking* behavior is assumed. Moreover, the

data generating process of Y_t is assumed to have no bearing on the parameters of (7). This is the *weak exogeneity* assumption, which is nested in the *DHSY* model. Following Johansen (1992), consider an n -dimensional VAR process Z_t with each component assumed to be $I(1)$:

$$Z_t = \mu + \Sigma_t^k \Pi_t Z_{t-1} + \zeta_t$$

where, ζ_t follows a normal innovation process with covariance matrix Ω , Π_t are $n \times n$ parameter matrices, μ is an n -vector parameter and $t=1, \dots, T$. For $Z_t = [C_t, Y_t]$, Ω may be partitioned to Ω_{cc} and Ω_{yy} as the diagonal and Ω_{yc} and Ω_{cy} as the off-diagonal elements. Rewriting the above model in a reduced form *ECM* model yields, $\Delta Z_t = \mu + \alpha \beta' Z_{t-1} + \Sigma_t^{k-1} \Gamma_t \Delta Z_{t-1} + \zeta_t$ where, $\alpha \beta' = \Sigma_t^k \Pi_t - I$, $\Gamma_t = \Sigma_t^{k-1} \Pi_t$, and α and β are $n \times r$ matrices of full column rank with $n > r > 0$. Here, r is the cointegrating rank of Z_t , β is the cointegrating matrix and α is the weight of β , also, known as the matrix of the loading factor. Since this setup implies that components of Z_t are cointegrated, by decomposing Z_t to, C_t and Y_t , and letting $\omega = \Omega_{cy} \Omega_{yy}^{-1}$, ΔZ_t can be written as a system of equations:

$$\Delta C_t = \underline{\mu} + \omega \Delta Y_t + \underline{\alpha} \beta' Z_{t-1} + \Sigma_t^{k-1} \underline{\Gamma}_t \Delta Z_{t-1} + \underline{\zeta}_t$$

and

$$\Delta Y_t = \mu_y + \alpha_y \beta' Z_{t-1} + \Sigma_t^{k-1} \Gamma_{yt} \Delta Z_{t-1} + \zeta_{yt}$$

where, $\underline{\mu} = \mu_c - \omega \mu_y$, $\underline{\alpha} = \alpha_c - \omega \alpha_y$, $\underline{\Gamma}_t = \Gamma_{ct} - \omega \Gamma_{yt}$ and $\underline{\zeta}_t = \zeta_{ct} - \omega \zeta_{yt}$. These equations are the conditional model for C_t given Y_t and the marginal model for Y_t , respectively. When β is the parameters of interest, $\alpha_y = 0$ implies *weak exogeneity* of Y_t for β . This is because $\alpha_y = 0$ allows the partial model ΔC_t to include all the relevant information for estimation and inference about the cointegrating vector β . In particular, $\alpha_y = 0$ makes the adjustment coefficient of Z_{t-1} free of the covariance matrix of the errors ω . Hence, if the inclusion of "disequilibrium error" in the VAR model of Y_t yields an insignificant parameter for this variable then Y_t is *weakly exogenous* for β as suggested by Johansen.

The above setup is contrary to the *forward-looking* nature of the *RWH* model of C_t that imposes the rational expectations assumption, hence, it takes the data generating process of Y_t into account. Davidson and Hendry (1981) argue that if the *DHSY* model is the true data generating process then a simpler model such as the *RWH* model may be wrongly selected as the appropriate representation of data. However, as it is noted above, the *ECM* representation is consistent with both hypotheses. Nevertheless, if an *ECM* representation is the data generating process for C_t and, implications of (4) or (7)

are rejected by the data, then one can distinguish between these two models.

Liquidity Constraint

The model in (5), can also be derived by invoking a variety of adjustment costs (Nickell, 1985, Mokhtari, 1992). For instance, the *ECM* model can be derived by minimizing a fairly general quadratic cost function based on adjusting the actual consumption, C_t , to its desirable value, C^* :

$$L_t = \lambda_1 (C_t - C^*)^2 + \lambda_2 (C_t - C_{t-1})^2 - 2\lambda_3 (C_t - C_{t-1})(C_t^* - C_{t-1}^*),$$

where adjustment factors λ_1 , λ_2 and $\lambda_3 \geq 0$, and $(C_t - C_{t-1})(C_t^* - C_{t-1}^*)$ reflect the attenuation of cost if C_t moves toward C^* . It is important to note that, for derivation of the *ECM* model in this context, researchers invariably use *symmetric* cost functions and assume a monotonic path for the convergence of C_t to C^* , in either case of $C_t > C^*$ or $C_t < C^*$. This ignores the presence of *liquidity constraints*. Clearly, if consumers have limited borrowing opportunities then adjustment to C^* is more feasible when C_t converges to C^* from above ($C_t > C^*$) than below ($C_t < C^*$). Hence, significance of an appropriate function of adjustment factors (λ_1 , λ_2 and λ_3) for situations where $C_t > C^*$, in conjunction with insignificance for $C_t < C^*$, could have been caused by the existence of persistent liquidity constraints in the economy and not necessarily because consumers are naturally *backward-looking* in their decision making process.

Time Series Behavior of the Data

Summers and Heston's (1988) real per capita annual data for 11 OECD countries over the period 1950-1982 provide the basic data for this analysis. This work provides estimates of price parities and overall purchasing power parities required for the proper conversion of the various expenditures of countries to an internationally comparable data set (see, Mokhtari, 1990).

This study is limited in two respects. First, only aggregate data on real per capita private consumption expenditures, real per capita disposable income, and prices are used. This is mainly due to the paucity and required comparability of the data across different countries. One can also observe the same problem, *i.e.*, paucity of data, even when U.S. data is used for the analysis of consumer problems (Bryant and Wang, 1990,

p.288). Second, given the length of the time series available, at most, a second order autoregressive distributed lag specification can be considered.

To test the null hypothesis of unit roots in c_t and y_t (the *log* of expenditures and the *log* of income) and their first differences (Δc_t and Δy_t), values of the Sargan and Bhargava statistic (CRDW), the Dickey and Fuller statistic (DF) and the augmented Dickey-Fuller statistic (ADF) were computed. The Sargan and Bhargava (1983) Durbin-Watson statistic (CRDW) allows for testing that a variable, x_t , is generated by the Gaussian random walk process against the alternative hypothesis of the stationary first order Markov process. Sargan and Bhargava also provide tables for critical values and show their CRDW statistic to be Uniformly Most Powerful invariant against the first order stationary Markov process. At the 5% level of significance, the critical value for CRDW is .77, as the upper and lower limits are the same in this regard. To test the null hypothesis of a unit root by the ADF statistic, the regression

$$\Delta x_t = \phi_0 + \phi_1 x_{t-1} + \phi_2 \Delta x_{t-1} + \zeta_t \quad \zeta_t \sim IN(0, \sigma^2 \zeta)$$

is run, and the significant value for a negative ϕ_1 is taken to reject the presence of a unit root in x_t . For the DF-test the same regression is run while restricting $\phi_2=0$. Critical values, at the 5% and 10% levels of significance, for the DF and the ADF are -3 and -2.6, respectively. As one may expect, no significant values of CRDW, DF and ADF for c_t and y_t were found. However, significant values of these statistics for the first difference of these variables showed that Δc_t and Δy_t are $I(0)$. One implication of the information in this table is that c_t and y_t are nonstationary $I(1)$. The overall finding is that $\Delta c_t \sim I(0)$ satisfies a minimum condition required by the *RWH* model; however, this is also consistent with the feedback interpretation.

To test for cointegration among the above variables, separate *OLS* estimates of:

$$c_t = a_0 + a_1 y_t + e_t \quad (8)$$

where, e_t is the usual disturbances, are obtained. For (8), rejecting the null of a unit root in any of the disturbances implies the existence of a linear combination that produces stationary disturbances. Stock (1987) proves that *OLS* estimates obtained by performing a cointegrated regression converge to their true values at a faster rate than otherwise. For example, if e_t is $I(0)$, then c_t and y_t are cointegrated, in which case, the *OLS* estimate of a_1 will be a consistent estimate of the income elasticity of consumption. In particular, coefficient

estimates from cointegrated regressions have a bias of order $O_p(T^{-1})$ rather than order of $O_p(T^{-1/2})$. Hence, the estimates are super-consistent. This provides the basis for Engle and Granger's two-step modeling method that allows the long-run elasticities to be estimated by a static regression (8). The *DHSY* model restricts a_1 to unity (the proportionality hypothesis) and suggests a test that involves inference using a t-test on an integrated variable (y_{t-1}). Phillips and Durlauf (1986), *inter alia*, show that t-tests of the parameters of nonstationary variables do not have the usual standard distribution.

O u r estimates of (8), not reported here, yield mixed results on rejecting the hypothesis of a unit root at the 5% level of significance for (8). The DF value support cointegration of c_t and y_t for U.S., Austria, Belgium and the U.K. On the other hand, the ADF values show a significant value only for the UK. The CRDW values are also too low and come close to attaining the lower bound for this statistic only for Austria and the UK.

For cointegrated variables an *ECM* representation exist. Hence, finding a significant error correction term is vital to both the *forward-looking* and *backward-looking* models.

Potential bias in the estimates of cointegration vectors from the static regressions, and the low power of univariate test methods (e.g., DF, ADF and CRDW) have led Banerjee, Dolado, Hendry and Smith (1986) to recommend estimation of a dynamic multivariate model as the starting point for modeling and testing. In particular, they use an *ECM* representation and show its advantages over univariate methods. Banerjee *et al.* suggest the t-test of the error correction term as a more powerful statistic for testing the null of unit root. Both an estimate of a_1 and a valid *ECM* representation are important for testing the implications of *forward-looking* and *backward-looking* models. An *ECM* representation corresponding to (8) is:

$$\Delta c_t = b_0 + b_1 \Delta y_t + b_2 e_{t-1} + \epsilon_t \quad (9)$$

where, ϵ_t are the disturbances. In (9), $e_{t-1} = c_{t-1} - a_0 - a_1 y_{t-1}$ is used as the error correction term. This substitution restricts the cointegrated regression parameters to the ones that can be obtained by estimating the static model, (8). Alternatively, replacing e_{t-1} in (9) by c_{t-1} and y_{t-1} yields the unrestricted versions of (9). Hence, inclusion of e_{t-1} as the error correction term is a testable restriction, where the usual F-statistic can be applied. In practice, *OLS* estimates of e_{t-1} , denoted by \hat{e}_{t-1} , are used as the error correction term. At the 5% level of significance,

Table I
Testing the Implications of RWH AND DHSY Models

COUNTRY	t_{RWH}	t_{DHSY}	$F_{DHSY}(1, 31)$	HAUSMAN	t_{b21}	t_{b22}
U.S.A.	0.59	0.79	1.10	26.05	-1.62	0.13
Japan	2.93	0.48	3.09	41.81	-2.06	-1.62
Austria	2.28	0.53	6.28	16.03	-3.61	-0.51
Belgium	3.58	1.97	1.70	8.07	-1.24	-2.21
Denmark	2.07	0.56	4.49	44.29	-1.00	-1.55
France	3.38	0.73	3.43	27.52	-1.93	-1.10
Germany	1.63	0.83	6.96	137.91	-4.10	-0.72
Italy	2.65	0.55	4.46	1.33	-1.09	-1.90
Netherlands	4.78	0.48	9.78	110.39	-2.55	-0.71
Spain	3.46	2.16	3.66	0.30	-1.93	0.32
U.K.	2.38	0.78	1.88	437.42	-2.20	-0.66

t_{RWH} : is a t-test of $d_2=0$, obtained by running: $c_t = d_0 + d_1 c_{t-1} + d_2 y_{t-1} + u_t$

t_{DHSY} : is a t-test of $h_2=0$, obtained by running: $\Delta y_t = h_0 + h_1 \Delta c_{t-1} + h_2 w_{t-1} + v_t$, where, w_{t-1} was replaced by its estimate, $\hat{w}_{t-1} = y_{t-1} - \hat{k}_0 - \hat{k}_1 c_{t-1}$.

$F_{DHSY}(1, 31)$: is an F-test of the nested restriction in w_{t-1} , whereas the unrestricted model, w_{t-1} was replaced by c_{t-1} and y_{t-1} . HAUSMAN: is Hausman's (1978) test for exogeneity of Δy_t in (10). HAUSMAN $\sim \chi^2$ with one degree of freedom under the

null of independence of Δy_t from disturbances.

t_{b21} and t_{b22} : are t-tests of $b_{21}=0$ and $b_{22}=0$, respectively. These are obtained by running:

$$\Delta c_t = b_0 + b_1 \Delta y_t + b_{21} e_{t-1}^+ + b_{22} \hat{e}_{t-1} + \epsilon_t$$

application of a battery of diagnostic tests shows (9) to be a good representation of the data for the 11 OECD countries.

Monte Carlo findings in Banerjee *et al.* show that the t-test of the error correction term has its correct size at the 5% level of significance and suggest that this test is more powerful than the CRDW statistic. We also found that t-ratios for the coefficients of \hat{e}_{t-1} support the cointegration of c_t and y_t for all countries. To check the validity of these t-ratios, a series of bootstrap experiments (100 repetitions per country) were conducted. The median of the bootstrap t-values (denoted by BOOT in Table I) are very close to the t-values on \hat{e}_{t-1} and support cointegration of c_t and y_t . As a further check on the error correction term, an F-test of the imposed parameter restrictions in e_{t-1} ($= c_{t-1} - a_0 - a_1 y_{t-1}$) was conducted. As the unrestricted model, estimates of (9) with the c_{t-1} and y_{t-1} replacing \hat{e}_{t-1} :

$$\Delta c_t = b_0 + b_1 \Delta y_t + b_4 c_{t-1} + b_5 y_{t-1} + \epsilon_t \quad (9a)$$

were used. Note that, the constant b_0 now also includes

a_0 . The results of the F-test in Table I, $F_{(1, 28)}$, at the 5% level, reject the null only for Japan and Belgium. This evidence supports the claim that a simple ECM (9) is a fairly good representation of the data generating process for consumption. However, whether this model reflects forward-looking or backward-looking behavior and/or behavior under liquidity constraints is of interest.

RWH, ECM and Liquidity Constrained

The random walk hypothesis of consumption implies that lagged income should not play a significant role in explaining the variation in current consumption. In particular, the coefficient of lagged income, d_2 , in the following regression

$$(10) \quad c_t = d_0 + d_1 c_{t-1} + d_2 y_{t-1} + u_t$$

where, u_t is the disturbances, should be insignificant.

Table I contains the results of t-tests of $d_2=0$, denoted by t_{RWH} , based on the estimates of (10). Country-by-country t-values overwhelmingly reject the

RWH model, except for the US and Germany. For the US, the findings are similar to Hall's (1978) primary results. As an alternative to the *RWH*, Hendry and his associates strongly argue for a *backward-looking* explanation of consumer behavior. Indeed, our cross-country evidence against the *RWH* model, offers support to their argument. However, this ignores the fact that imperfections in the capital market (liquidity constraints) and not *backward-looking* behavior may have caused rejection of Hall's *forward-looking* model. Hence, to accept *backward-looking* behavior as a viable explanation of the movement in consumers' expenditure, implications of liquidity constraints, that may have led to the above results, should be tested.

The *DHSY* model assumes that the density, $D(\cdot)$, for the data, say, $X_t [= (c_t, y_t)]$, and their lagged values, say, $I_{t-1} [= (c_{t-1}, y_{t-1})]$, can be factorized to yield $D(c_t|y_t, I_{t-1}, \theta_1) D(y_t|I_{t-1}, \theta_2)$ where θ_1 and θ_2 are vectors of constant parameters. Maintaining this assumption allows one to regress (condition) c_t on y_t and I_{t-1} and, hence, to proceed to estimate and conduct inferences about θ_1 without modeling y_t and estimating its parameters θ_2 . In this case, y_t is said to be *weakly exogenous* for θ_2 . In other words, y_t is *sufficient information* for estimation and inference about the parameters of the conditional model.

To test for the weak exogeneity of y_t in the *DHSY* model, an *ECM* representation consistent with the marginal model $D(y_t|I_{t-1}, \theta_2)$ that uses only lagged information is constructed. After running:

$$y_t = k_0 + k_1 c_t + w_t$$

where, k_s are parameters and w_t is the disturbance term, lagged estimates of w_{t-1} were used in the following *ECM* representation:

$$\Delta y_t = h_0 + h_1 \Delta c_{t-1} + h_2 w_{t-1} + v_t$$

where, h_s are the parameters and v_t is the disturbance term. Significant t-ratios of h_2 , denoted by t_{DHSY} in Table I, reject the assumed restriction ($h_2=0$) for Belgium and Spain. Testing the nested restriction in $w_{t-1} = (y_{t-1} - k_0 - k_1 c_{t-1})$ by replacing w_{t-1} with y_{t-1} and c_{t-1} and performing an F-test provides a less favorable result for the *weak exogeneity* of income. Significant values of this F-test, denoted by $F_{DHSY}(1, 31)$ in Table I, support the *weak exogeneity* assumption only for Austria, Denmark, Germany, Italy and Netherlands. Further evidence against exogeneity of income is obtained by an application of the Hausman (1978) test to (9), where, in addition to the relevant explanatory variables in (9), Δy_t ,

Δc_{t-1} , and $\Delta^2 p_t$ are also used as instruments. Reported values for the Hausman's (1978) test for exogeneity, denoted by HAUSMAN in Table I, which are distributed as χ^2 with 1 degree of freedom under the null, clearly reject exogeneity of Δy_t for all but two countries of Italy and Spain. The above tests strongly reject exogeneity of y_t , requiring a system, rather than a single equation approach, to the modeling methodology that *DHSY* advocates. However, since the purpose of this paper is not to generate a new model but to test the existing ones, no attempt to formulate a system for c_t and y_t is taken.

If consumers are *backward-looking*, then their response (b_2) to past mistakes (e_{t-1}) should be stable and consistent with this hypothesis. On the other hand, if consumers are *forward-looking* but have limited opportunity to borrow, then this would account for the rejection of irrelevance of lagged information in the *RWH* model. Hence, a proper differential response of consumers to the positive and negative values of e_{t-1} can serve two purposes: rejecting the *backward-looking* explanation, on the one hand, and favoring the *forward-looking* explanation on the other hand.

Proponents of the *backward-looking* explanation rely exclusively on the tests for parameter invariance over time. Such tests ignore the important fact that economic agents react to economic constraints that are not necessarily time-dependent. Since limited borrowing opportunities for consumers might be spaced randomly over time, rejecting time-dependent structural breaks provides no useful information to support the *backward-looking* explanation. However, parameter constancy is required for (conditional) models that support the effectiveness of government policies. For a proper test of *liquidity constraints* one should allow for differential reaction of consumers to positive and negative deviations from the optimal path of consumption (Mokhtari, 1994). In particular, if borrowing opportunities are limited, then adjustment to the optimal level of consumption is more feasible when actual consumption exceeds optimal consumption than otherwise. Indeed, if actual consumption is less than optimal, severely limited borrowing opportunities may not permit significant adjustment to the optimal level to occur.

Since cointegrated regressions capture the equilibrium state of consumption-income relationship, implications of *liquidity constraints* can be tested by consumers response (b_2) to the deviations from the equilibrium or (optimal) path, i.e., $e_{t-1} (= c_{t-1} - a_0 - a_1 y_{t-1})$. If actual consumer expenditure (c_{t-1}) is higher than optimal level ($a_0 - a_1 y_{t-1}$), or $e_{t-1} > 0$, then consumers lower this gap by decreasing Δc_t , so consumer response

to this gap, denoted by b_{21} , should be negative and significant. On the other hand, if $c_{r,t} < a_0 - a_1 y_{r,t}$, or $e_{r,t} < 0$, then severely limited borrowing opportunities for consumers may not allow any significant increase in $\Delta c_{r,t}$, so that consumer response, denoted by b_{22} will be insignificant. Since an insignificant b_{22} also results, if no deviation from the optimal path ($e_{r,t} = 0$) is encountered, such cases are included with the liquidity constraint situations; that is b_{22} is the slope coefficient for $e_{r,t} < 0$.

The proposed testing procedure of Mokhtari (1994), consistent with the above implications, (9) can be rewritten as:

$$\Delta c_{r,t} = b_0 + b_1 \Delta y_{r,t} + b_{21} e_{r,t}^+ + b_{22} \bar{e}_{r,t} + \epsilon_{r,t}$$

where, for estimation, $e_{r,t}^+$ consists of a column of positive values of $\hat{e}_{r,t}$ and zero, otherwise. Similarly, $\bar{e}_{r,t}$ consists of negative (or zero) values of $\hat{e}_{r,t}$ and zero, otherwise. If *liquidity constraints* matter, then b_{21} will be negative and significant. Moreover, insignificance of b_{22} , in addition to providing support for the *liquidity constraints* proposition, is evidence against a *symmetric* reaction to disequilibrium terms, invariably assumed by the proponents of the *backward-looking* hypothesis.

Negative and significant t-ratios of b_{21} (denoted by t_{b21} in Table I), at the 5% level of significance, support the first half of the above proposition about *liquidity constraints* for Japan, Austria, Germany, the Netherlands and the UK. At the 10% level, France and Spain also support this proposition. Similarly, insignificant t-ratios of b_{22} (denoted by t_{b22} in Table I), for all countries, but for Belgium and Italy, strongly support the second half of the *liquidity constraint* proposition.

These results high light a possible deficiency in testing for random walk behavior in consumers' expenditure, as a *forward-looking* model is rejected in favor of a *backward-looking* one generally designed to pass a battery of diagnostics. The presence of *liquidity constraints* accounts for the appearance of contemporaneous income in the consumption function. This raises the issue of joint determination of consumption and income and, in particular, exogeneity of income for the parameter of interest.

Conclusion

Our investigation of the relationship between income and consumption expenditure shows that (i) consumers' expenditure and income are nonstationary (integrated) of the first order, but follow a cointegrated path. (ii) tests of the implications of the random walk model, that assumes *forward-looking* behavior, reject this model for all of the

OECD countries in the sample but the US and Germany. (iii) estimates of an *ECM* model support an implication of *liquidity constraints* for most of the countries in the sample.

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Endnotes

1. Associate Professor, Department of Family Studies, 1204 MMH, U of MD, College Park, MD 20742. email: mm@umdd.umd.edu.
2. Associate Professor, College of Business and Management.
3. SUMITOMO Corporation, Tehran, Iran.

An Approach to Adding Price Information To the Consumer Expenditure Survey

This paper describes an approach to adding price information to the Consumer Expenditure Survey by using the Consumer Price Index and the ACCRA Cost of Living Index. Creating such a data set enables us to further explore many research topics of demand analysis at household level. Strengths and weaknesses of this approach are also discussed.

Jessie X. Fan, University of Utah¹

In neoclassical consumer theory, consumer behavior is frequently presented in terms of preferences and possibilities. On the preference side, we usually consider a consumer faced with possible consumption bundles in his or her consumption set. The consumer also is assumed to have preferences on some consumption bundles over others. On the other side, choices are limited within the consumer's available resources. Two important factors determine a consumer's budget constraint: permanent income and market prices he or she faces. Given a budget constraint and a utility function representing consumer preferences, a consumer purchases the bundle of commodities that maximizes his or her utility.

Modern expenditure and demand analyses usually are based on this neoclassical framework. Topics of research interest include income elasticities, own-price and cross-price elasticities, and the effects of demographic variables on consumers' demand or consumption expenditure. While income elasticities and demographic effects are usually estimated using both macro-level and micro-level data, price elasticities are mostly estimated only using macro level data. Since prices don't change a lot over a short period of time, Engel studies using cross-sectional household level data usually assume constant prices.

One shortcoming of estimating price elasticities using only macro-level time-series data is that we are unable to look at different responses to price changes by consumers in different regions, with different household structures, different levels of income, and different ethnicity, while many marketing research and government policy research questions can be better answered using this information. Examples of research issues include identifying market segments, evaluating changes in tobacco taxes, gasoline taxes and their welfare impact on poor and old households, and analyzing government welfare policies such as the food

stamp program.

In order to conduct complete demand analysis using micro-level data, one approach to use is to incorporate price information into the Consumer Expenditure Survey. The main purpose of this paper is to describe how to use two other data sets: the Consumer Price Index and the ACCRA Cost of Living Index, to add price information to the Consumer Expenditure Survey. Strengths and weaknesses of this approach are also discussed.

About the Three Data Sets

The three major data sources used in this study are the 1980-1990 Consumer Expenditure Survey (CES), the 1980-1990 Consumer Price Index (CPI) -- both collected by the Bureau of Labor Statistics (BLS) -- and the 1990 ACCRA Cost of Living Index (ACCRA), published by the American Chamber of Commerce Researchers Association. The CES data set, collected continuously and annually since 1980 by BLS, provides very detailed information on household expenditures and household demographic characteristics. The price data, coming from the CPI and published by BLS every year since 1913, are compatible and consistent with the CES, since the CPI data use expenditure weights obtained from the CES data. While the CPI provides price data over time, the ACCRA data publish price differences for many areas for major expenditure categories. These areas include cities and standard metropolitan statistical areas (SMSA's). Therefore, the ACCRA data are used as a supplement to the CPI price data in this study. The sample period in this study is annually from 1980 to 1990.

The Consumer Expenditure Survey

The Consumer Expenditure Survey (CES) data consist of two separate samples: the diary survey and the

interview survey. The interview survey is used for this study. In the interview survey, each of the sample consumer units reports information to an interviewer every three months for five consecutive quarters. The data are collected from nationwide probability samples representing the total civilian, noninstitutional population of the United States, with the use of a rotating procedure for improving data collection efficiency. Each quarter, 20 percent of the sample are new households introduced for the first time. They replace one-fifth of the sample that has completed its final interview in the previous quarter.

The interview survey collects detailed data on an estimated 60 to 70 percent of total family expenditures. In addition, estimated average expenditures for each quarter are obtained for food and other selected items and these global estimates account for an additional 20 to 25 percent of total expenditures (BLS Handbook of Methods, Bulletin 2285). So the detailed expenditures covered by the interview survey account for about 80 to 95 percent of a household's total expenditure, where expenditure refers to transactional cost, including excise and sales tax on goods and services acquired during the interview period.

For this study, only households that completed the interview for an entire calendar year are selected. Furthermore, since the CPI does not provide price index information for households residing in rural areas, rural households are excluded.

The Consumer Price Index

The Consumer Price Index (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. It is calculated monthly for two population groups, one consisting only of wage earners and clerical workers (CPI-W) and the other consisting of all urban households (CPI-U). The CPI-U represents the prices paid by about 80 percent of the United States population and is used in this study. The CPI is estimated from a set of samples which are designed using statistical procedures to make the CPI representative of the prices paid for goods and services purchased by consumers in urban areas of the United States. Since 1988, the index is calculated from data collected in 88 urban area Primary Sampling Units (decreased from 94 due to budgetary reasons), selected based on criteria that including region, population size, percentage of population increase from 1960 to 1970, and major industry (BLS Handbook of Methods, Bulletin 2414). The market basket of items that is priced in the CPI is selected in two phases. In the first phase, item categories are selected at Entry Level Item (ELI) level, a relatively

broadly defined grouping of items. The probability of selection of an ELI is proportional to the expenditure reported for that ELI in the CES. In the second phase, specific item selection is made from within the designed ELI categories using multistage probability sampling procedures (U.S. Bureau of Labor Statistics, 1913-1990 CPI on-tape documentation).

National indices are available for about 350 consumer items and item groups with some of them beginning in 1913. Area indices are available for 27 places and for about 65 items and groups. Regional indices are available for 4 regions with about 95 items and groups per region. City-size indices are available for 4 city-size classes with about 95 items and groups per class. Fourteen region/city-size indices are available, cross-classified by region and city class. For each of the 14 cross classifications, about 60 items and groups are available.

The CPI is a fixed-quantity price index. That is, it is a ratio of the costs of purchasing a set of items of constant quality and constant quantity in two different time periods. Denoting the index by $I_{t,0}$, where t is the comparison period for which a new index number is to be computed and 0 , the reference period, then $I_{t,0}$ is calculated by using:

$$I_{t,0} = \frac{\sum_i P_{it} Q_{ib}}{\sum_i P_{i0} Q_{ib}} \times 100, \quad (1)$$

where P_{it} is the price of the i^{th} item in comparison period t , P_{i0} is the price for the i^{th} item in reference period 0 , and Q_{ib} is the quantity of the i^{th} item consumed in the expenditure base period b . For most of the price indices currently published, 1982-1984 is used as the base year. Since most of the indices are published monthly since 1977, annual average indices can be constructed using 12 successive months of the CPI values by:

$$I_{\text{year}} = \frac{\sum_{i=1}^{12} I_{i,0}}{12}, \quad (2)$$

where the value of each monthly index is real or imputed and provided in the CPI data tape (BLS Handbook of Methods, U.S. Bureau of Labor Statistics Bulletin, No. 2414).

The ACCRA Cost of Living Index

Although the CPI provides useful and detailed information on price changes for different expenditure categories over time, it has its limitations. In particular,

the CPI does not provide data on relative living costs among different geographical areas. It has been commonly known that prices for some expenditure categories such as housing, are very different from area to area, and the assumption that the prices are the same among geographical areas at any given time is obviously unrealistic and can cause errors in statistical analyses.

The ACCRA Cost of Living Index (ACCRA) is quarterly data collected and published by the American Chamber of Commerce Researchers Association. It provides a useful and reasonably accurate measure of living cost differences among urban areas in the United States. Items on which the index is based have been carefully chosen to reflect the different categories of consumer expenditure. Weights assigned to relative costs are based on the CES survey data on expenditure patterns for midmanagement households. The data cover most of the Metropolitan Statistical Areas (MSAs) and Primary Metropolitan Statistical Areas (PMSAs), which were defined by the Office of Management and Budget in 1983, and are thus compatible with the CPI area sample construction.

The ACCRA data consist of two sections of quarterly data: an urban area index and an average price index. In the urban area index data, each place's composite index and six component indices - grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services, are reported. These places are MSAs, PMSAs, and selected nonmetropolitan areas. The average price reported for each item in the survey is shown for each participating place (American Chamber of Commerce, 1990). The urban area index is used in this study.

Data Construction

While data on expenditure and socio-demographic characteristics are drawn from the Consumer Expenditure Survey, data on prices are constructed for 14 region/city-size cross-classifications and 4 regions each year using both the Consumer Price Index and the ACCRA Cost of Living Index. These two parts are then matched using the region/city-size information provided in the CES so that households in the sample has data on prices in the region they live and the specific city size range their PSUs belong to.

The number of expenditure categories included in the study is determined by taking data availability and computational feasibility into consideration. After careful examination of the data available in these three data sources, 13 mutually exclusive summary expenditure categories are selected. They are: (1) Food at home; (2) Food away from home; (3) Shelter; (4) Fuel

and utilities; (5) Household operation, household equipment and furnishing; (6) Apparel and upkeep; (7) Entertainment; (8) Transportation; (9) Education; (10) Health care; (11) Alcoholic beverages; (12) Tobacco; and (13) Personal care. For detailed information about the commodities and services included in each category, refer to the 1990 Consumer Expenditure Survey EXPN file on-tape documentation.

Step 1. Constructing a consistent CES data set from 1980 to 1990

Since 1984, BLS has provided summary expenditure data for about 20 categories on public-use data tapes, and expenditures on these 13 expenditure categories of interest are calculated using the summary expenditure information. For the four years from 1980 to 1983, expenditure information is only given at Universal Classification Category (UCC) level, so data on these 13 summary expenditure categories are calculated from detailed UCC expenditures, following the definitions of expenditure categories defined in 1990. During these 11 years, there have been several changes in the definitions of expenditure categories. Major changes affecting construction of the expenditure categories of interest are: (1) Before 1987, "food prepared by consumer units on trips" (U.C. 190904) was classified as "food away from home," whereas starting from 1987, it is classified as "food at home"; (2) Before 1987, "smoking alarm purchase and rental (U.C. 690241-690245)" was in the expenditure category "shelter." It is classified as "household equipment and furnishing" starting from 1987; (3) Before 1987, "docking and landing fees (U.C. 520901), trailer rental, including mileage charge (U.C. 520904), boat and trailer rental on out-of-town trips (U.C. 520907), rental of campers and other vehicles on trips (U.C. 620902), rental of boats (U.C. 620906), and rental of campers and other recreational vehicles (UCC 620907)" were classified as "entertainment", whereas after 1987, they are included in "transportation"; and (4) Beginning in 1988, "materials for dwellings under construction and additions by renters (UCC 990950)" has been eliminated from expenditure estimation. The expenditure category "shelter" before 1988 was affected.

To construct a consistent data set, all the expenditure categories of interest are constructed or modified following the category definitions defined in 1990.

Step 2. Constructing region/city-size price indices for 1990

The construction of price data is more complicated, since the CPI and the ACCRA data are

collected by different agents and the sampling technique, expenditure category classification might not have been consistent with each other. Fortunately, the similarities are more than the differences. The major bridge between these two data sets is the area sampling units, which are MSAs and PMSAs (1088 in total) defined by the Office of Management and Budget in 1983. For the CPI, 88 out of these 1088 MSAs and PMSAs are selected to form the sample of areas. Detailed sample areas, population weights, and pricing cycle information are provided in "BLS Handbook of Methods" (U.S. Bureau of Labor Statistics Bulletin, No. 2414). In 1990, the ACCRA data reported price differences for about 86% of the CPI sampling areas (76 out of 88), and covered about 90% of the population used in the CPI. Using the CPI area sample information, a subsample is drawn from the ACCRA data with 76 sampling areas that are also in the CPI area sample. The use of these population weights are modified using the CPI population weights information so that the region/city-size subsamples weight up to the total population of their specific region/city-size groups, and the whole sample weights up to the whole population defined by the CPI.

Price indices for 14 region/city-size classifications are constructed and price indices also are aggregated for four regions. The four regions are Northeast, Midwest, South and West. There are three city-size classifications each for Northeast and West, and four city-size classifications each for Midwest and South. They are:

- (1) Northeast size A: population > 1,200,000;
- (2) Northeast size B: population 500,000 - 1,200,000;
- (3) Northeast size C: population 50,000 - 500,000;
- (4) Midwest size A: population > 1,200,000;
- (5) Midwest size B: population 360,000 - 1,200,000;
- (6) Midwest size C: population 50,000 - 360,000;
- (7) Midwest size D (non-MSA): population < 50,000;
- (8) South size A: population > 1,200,000;
- (9) South size B: population 450,000 - 1,200,000;
- (10) South size C: population 50,000 - 450,000;
- (11) South size D (non-MSA): population < 50,000;

- (12) West size A: population > 1,200,000;
- (13) West size B: population 330,000 - 1,200,000;
- (14) West size C: population 50,000 - 330,000;

To illustrate the procedure of constructing the region/city-size price indices, an example is presented.

Nashville, Tennessee is a Metropolitan Statistical Area (MSA), which includes part or all of Cheatham county, Davidson county, Dickson county, Robertson county, Rutherford county, Sumner county, Williamson county and Wilson county. Nashville is among one of the 88 areas in the CPI area sample, with a population weight of 0.909. This MSA is classified as South region, city size B. In the ACCRA data, the area price index for health care for Nashville is 86.6. These two numbers are imported into a spreadsheet. Same procedure is done with other areas in South, city size B, including Richmond, Virginia, Jacksonville, Florida, and five other MSAs that are both in the CPI area sample and the ACCRA data. The index for South city size B is then computed using the following formula:

$$I_{1990, southB} = \frac{\sum_{i=1}^8 w_i \cdot I_i}{\sum_{i=1}^8 w_i} \quad (3)$$

where w_i is the population weight for MSA i , I_i is the price index for health care in 1990 for MSA i .

The same procedure is done with all 77 areas that are both in the 1990 ACCRA data and the CPI data, and for all six expenditure categories reported in the ACCRA data.

The calculation using the 1990 ACCRA data and the CPI sampling information resulted in 14 region/city-size price indices for six composite expenditure categories: groceries, utilities, shelter, transportation, health care, and miscellaneous commodities and services. Table 1 provides information on constructed price indices for these 14 region/city-size areas and West region in 1990.

Step 3. Constructing region/city-size price indices for 1980-1990

After careful examination of the ACCRA commodity and service sampling information, 13 expenditure categories, which are of interest to this study, are matched with these six expenditure categories. The constructed region/city-size price indices for these 13 expenditure categories in 1990 are then combined

Table 1.
Selected Region/City-Size Price Indices for 1990

Region/ City-Size	Food Home	House	Util	Trans	Health Care
Northeast A	111.0	214.7	169.3	111.3	134.6
Northeast B	106.2	132.4	118.4	103.8	112.9
Northeast C	100.8	119.0	125.2	96.2	89.7
Midwest A	99.7	120.5	103.4	102.8	104.2
Midwest B	96.3	100.6	102.8	96.1	93.8
Midwest C	97.6	99.8	96.4	100.0	88.6
Midwest D	101.0	83.0	87.9	94.3	80.2
South A	101.9	108.8	113.0	108.3	110.3
South B	97.5	97.8	103.7	100.7	98.1
South C	99.4	83.0	102.8	99.1	91.7
South D	92.0	83.5	90.1	97.9	78.7
West A	102.9	160.0	79.0	112.4	113.2
West B	101.8	107.5	89.4	110.9	113.2
West C	96.6	86.6	79.5	96.1	103.4
West Region	102.1	145.5	80.5	110.6	122.7

with the CPI region/city-size price indices using the following formula:

$$I_{t,r,k} = \frac{I_{t,r,k}}{I_{1990,r,k}} \times I_{1990,r,k} \quad (4)$$

where t denotes the year of interest with 1990 denoting year 1990, r the area, and k the expenditure category. The constructed indices reflect price changes over time, as well as across different region/city-size classifications. As an example, Figure 1 shows the constructed price indices for health care in five region/city-size areas from 1980 to 1990. These five region/city-size areas are Northeast A, Midwest A, South A, West A, and South D.

Step 4. Incorporating region/city-size indices for 1980-1990 into the CES

The price indices are then incorporated into the CES data using CES region and city size information for each household. One problem is that the information about city size provided in the CES uses a categorical variable, where the cutoff points are very close but not necessary identical to the cutoff points used in the CPI and the ACCRA data. With the help of the SMSA information (whether the respondent lives in an SMSA) provided by the CES starting 1986, prices are incorporated into the CES by matching the population size as closely as possible.

The final data set with income, price and demographic characteristics information is thus constructed. The total sample size is 8651, including

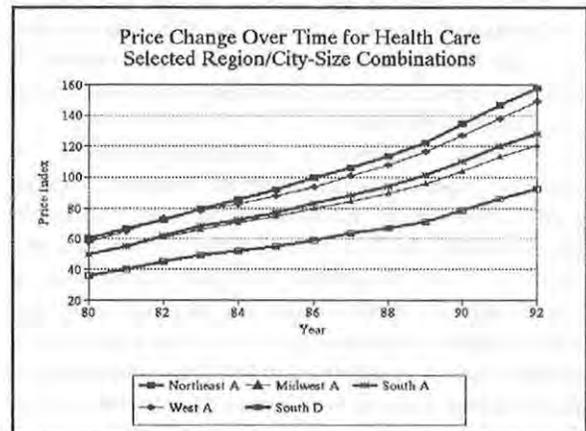
626 households in 1980, 749 in 1981, 799 in 1982, 850 in 1983, 805 in 1984, 821 in 1985, 570 in 1986, 964 in 1987, 826 in 1988, 804 in 1989, and 846 in 1990.

Problems and Limitations

This study describes an approach to adding price information to the Consumer Expenditure Survey by using the Consumer Price Index and the ACCRA Cost of Living Index. Creating such a data set enables us to further explore many research topics of demand analysis at household level. However, this approach is subject to several limitations.

First, the ACCRA data use judgmental sampling instead of random sampling. The items on which prices are collected are not the same as in the item sample of the CPI, and retail establishments from which the prices are collected are not identical to that in the CPI. Areas included in the ACCRA survey are those where Chambers of the Commerce or similar organizations have volunteered to participate; therefore, not all the areas in the CPI area sample are included in the ACCRA data. These sampling problems with the ACCRA data have inevitable introduced error in the price estimation across different areas in the U.S.

Figure 1.
Price Changes over Time for Health Care:
Selected Region/City-Size Combinations



Second, composite price indices are only available for six expenditure categories in the ACCRA data. Therefore, the prices for food away from home, household operation, equipment and furnishing, apparel and upkeep, entertainment, education, alcoholic beverages, tobacco and personal care are assumed to have the same region/city size differences in 1990. This,

of course, would seriously affect the quality of the price data for these expenditure categories. A solution for this problem is to use the ACCRA raw price data to construct separate price indices for these expenditure categories. This process is currently under way.

Third, for confidentiality reasons, the Consumer Expenditure Survey does not publish the city size information for the western region. Therefore, it is assumed that all households in the West face the same prices for all expenditure categories, which is apparently not a very realistic assumption.

Given all the limitations and problems, the price data incorporated into the CES still have reasonably good quality, because the dominant features of the price differences are over-time price changes, which come from the CPI. Furthermore, the American Chamber of Commerce Researchers Association does use carefully chosen items on which the area price indices are based, and CES weights are used to compute the composite indices for different expenditure categories. The area sample used in the ACCRA data is similar to the area sample used in the CPI. To improve the quality of the ACCRA data, researchers collecting the data also stringently review all prices reported, and attempt to eliminate error and noncompliance with specifications. As long as the ACCRA data are of fair quality, using the ACCRA data on area differences in prices should be an improvement over assuming there are no area differences. Although we have no way of knowing how good the quality of this data set is, preliminary demand analysis using this data set does show that the estimated price elasticities are reasonable and close to price estimates published in previous studies using time-series data.

For researchers conducting studies on consumer expenditure and consumer demand, a data set with better price information is very desirable. Improvement can be achieved if the Bureau of Labor Statistics is able to publish raw price information for region/city-size combinations for any one year after 1980. Before that comes true, researchers still have to explore various possibilities to add price information to the Consumer Expenditure Survey data, in order to find the best approximation.

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Endnotes

1. Assistant Professor, Department of Family and Consumer Studies, 228 AEB, Salt Lake City, UT 84112. Phone: 801-581-4170. Fax: 801-581-5156. Internet: fan@emery.fcs.utah.edu.

Child Care: Parental Search and Decision-Making

Four hypotheses about parents' search behaviors and choice of child care were tested. Mothers took responsibility for child care search; they shared responsibility for choosing care with fathers. Parents relied on personal, secondary sources of information. Irrespective of their intentions to change their child's care, parents searched for information about options.

D. Elizabeth Kiss, University of Illinois¹
Brenda J. Cude, University of Illinois²

There has been little research on how mothers and fathers share responsibility for searching for information about child care alternatives, making decisions about child care options, or daily management of care. McBride and Mills (1993) concluded that despite a changing societal context for fatherhood, "actual patterns of paternal involvement may not be that different from previous generations" (p. 471).

Research suggests parents engage in little search prior to choosing child care. Instead, they rely on secondary sources of information, particularly friends and relatives, rather than directly contacting providers or information agencies. Also, parents may have an existing body of knowledge to consult when a child care decision is needed (Widdows & Powell, 1990). By implication, parents engage in what Block, Sherrell, and Ridgway (1986) called "ongoing" search--search activities that are independent of specific purchase needs or decisions. This paper examines parents' search and decision-making relative to child care using an economic model.

We formulate four hypotheses concerning parents' participation in child care search and decisions:

- H1: Mothers will take primary responsibility for child care search and daily management but share responsibility for choosing child care with fathers.
- H2: Parents will use only a small number of information sources in their searches.
- H3: Parents will rely more on personal, secondary sources of information than on primary or impersonal sources.
- H4: Parents will search for information about child care options irrespective of their intentions to change their child's care situation.

Data Collection

A research protocol was designed that involved mail, personal, and telephone interviews with parents over a 10-week period. Parents selected were those with a child aged 2 1/2 to 4 years old, cared for by someone other than the parent on a regular basis for at least 10 hours a week, and who lived in the home with two parents (biological or adoptive).

Results

A total of 40 parents completed all interviews. The median ages of both mothers and fathers were 31 to 40; the parents had an average of 15 years of education. The sample was predominantly white; median family income was \$45,000 to \$59,999.

The median age of the 40 children in the final sample was 44 months; 18 of the children were male and 22 were female. Seventy-three percent of the children had one or more siblings.

Thirty children were currently in only one child care situation; the rest were in two or three. Over one-half of the children were first placed in care between the ages of one and three months old. Their median time in care was 37.5 months. In total, the 40 parents reported searching for child care 126 times during their children's lifetimes. The median number of searches per child was three.

Child Care Search and Decision-Making

Parents were asked to indicate which parent had responsibility for searching for child care, daily management of child care, and making child care decisions. As hypothesized, mothers' took the primary responsibility for child care search (83%); only 8% reported it was shared by both parents.

As expected, mothers generally had the primary

responsibility for daily management of child care including picking up and dropping off the child and communicating with the provider. The daily activities most likely to be shared by both parents were: communicating with the provider, making other arrangements when the child was ill, and picking up the child when s/he was ill. More than 10% of fathers had primary responsibility for only three activities: taking the child to care (13%), picking up the child from care (10%), and paying the child care bill (13%).

Fathers were more involved in the choice of child care arrangements. Fifty-three percent reported that both parents selected the child care arrangement, 68% said they both chose the child care program, 58% said they both decided whether child care was needed, and 78% said they both chose the type of care (center, family day care, etc.). These results provide support for Hypothesis 1.

Information Sources

Parents were asked to respond to the following question regarding each day care situation their child had been or was currently in: "What sources did you use in finding this situation?" As hypothesized, the majority of parents used three or fewer types of sources across all searches. However, 25% used four types of sources while 15% used five types. Just five parents relied on only one type of information. Thus, the results provide support for Hypothesis 2.

Parents reported using a variety of types of information sources when searching for child care. In their 126 searches, parents consulted a total of 218 sources. Parents tended to rely on personal, secondary information sources. Friends or neighbors accounted for 24% of the 218 sources. Relatives represented 12% of the information sources used. While advertisements (newspaper, phone book, or posted) were frequently used (17% of the sources), 80% of parents used them only once or not at all.

Personal information sources were identified as most important in 37% of searches. Parents named friends or neighbors as the most important source of information in 24% of the 126 searches. Relatives were the most important source in 13% of the searches. Thus, the data provide support for Hypothesis 3.

Ongoing Search

Parents were asked in each of the five follow-up interviews whether or not they had learned something or contacted someone about a possible child care situation. Their responses suggest parents in this study can be divided into three groups: those who never learned anything, those who made a single contact or

learned something once, and those who made multiple contacts or reported learning something on more than one occasion. Nearly two-thirds (25) of parents reported at least a single contact; 30% (12) reported multiple contacts.

During the follow-up period, 45% of parents did not rule out the possibility that their child would change care in the near future. Two-thirds of those parents either learned something, contacted someone about care, or both. Among the 55% of parents who indicated their child was not likely to change care situations, 60% reported learning something or having at least one contact related to child care. This result provides support for Hypothesis 4.

Conclusions and Implications

This research provides evidence that while mothers and fathers share responsibility for making child care decisions, mothers take the primary responsibility for searching for child care information and the daily management of child care. Thus, finding ways to increase fathers' involvement could improve the child care situation for parents, children, and providers. The results support previous findings that suggest parents seek little information prior to choosing child care and tend to rely on a few, personal sources of information. This research suggests that a survey of parents' search activities just prior to making a child care decision does not provide a complete picture of their information seeking.

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Endnote

1. Doctoral student, Department of Agricultural and Consumer Economics.
2. Professor, Department of Agricultural and Consumer Economics, 305 Mumford Hall, 1301 W. Gregory Drive, Urbana, IL 61801.

A Family Economic Self Sufficiency Measure

Policy makers and researchers commonly set family economic self sufficiency as a goal for welfare recipients, but the term is often not defined. The most common definition --not receiving welfare -- is too narrow. A more inclusive measure of self sufficiency is needed if researchers are to predict which young persons will become economically self sufficient adults. To that end, a measure which can be used to research this topic is proposed in this paper.

Julia Marlowe, The University of Georgia¹

The term economic self sufficiency is used by politicians, bureaucrats, and researchers to designate a goal for welfare recipients. Typically, however, the term is undefined. When a definition is given, the meaning is "not receiving welfare" (University of Wisconsin, 1995; Edin, 1995; Unified, 1995, U.S. General, 1995). However, some individuals who do not receive public assistance are still not economically self sufficient. Family economic self sufficiency is not a poverty measure. It is not known why some individuals become economically self sufficient and others do not; education is associated with higher income, but not necessarily self sufficiency (U.S. Bureau of Census, 1993; Schultz, 1961; Ashenfelter & Krueger, 1994). The purpose of this paper is to propose a more inclusive definition of family economic self sufficient and a preliminary model of the determinants of economic self sufficiency for young families.

Economic self sufficiency is expected to occur when an individual establishes an independent household, or soon thereafter (e.g. after completion of school). In the field of family sociology, the timing of young persons leaving home has been the dependent variable in much research. Family economic literature has focused on adequate income and welfare dependency as dependent variables. Family economic self sufficiency includes concepts from both family sociology and from family economics. The proposed measure would establish a dichotomous dependent variable. An individual would be categorized as self sufficient if he/she meets four criteria. Otherwise the individual would be considered not self sufficient. The four criteria for measuring economic self sufficiency could be: 1) receives no public assistance; 2) has adequate income, defined as 155% of the poverty threshold (Edin, 1995); 3) has manageable debt, defined as having a debt/asset ratio of <1 (Godwin, 1995); and 4) has established his or her own household.

A preliminary model of the determinants of family economic self sufficiency is based on three established models: a human capital model (Becker, 1993), a family sociology model of leaving home (Buck & Scott, 1993), and a welfare dependency model (Santiago, 1995). The National Longitudinal Survey of Youth data set includes most variables in the preliminary model. Respondents, ages 14-21, were interviewed in 1979 with follow-up interviews through 1992. Using these data, the proposed model is:

$$FESS = \beta_0 + \beta_1 H + \beta_2 F + \beta_3 R + \beta_4 D + \epsilon$$

where FESS is self sufficiency at age 27; H is a vector of human capital investments at age 17 (education, work experience, technical training); F is a vector of family background variables at age 17 (mother's education, parental income, family composition & family size); R is a vector of youth resources at age 17 (youth earnings, youth savings, youth aspirations, self esteem); D is a vector of demographic variables at age 17 (race & gender); and ϵ is a random variable which captures errors of measurement and the effects of omitted components of H, F, R and D and is assumed to be uncorrelated with H, F, R and D.

Findings should have significant policy implications. Results will help identify which variables are likely to be associated with future self sufficiency. Programs could be developed to invest in the human capital variables associated with self sufficiency. Knowing which family background variables are associated with future self sufficiency of offspring should help professionals provide assistance to children as risk of dependency. Teenagers could be given incentives to save money or work depending upon findings of the study. Similarly if self esteem is significant, then efforts to increase self esteem should be made.

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Endnotes

1. Associate Professor, Department of Housing and Consumer Economics. Dawson Hall, Athens, GA 30602-3622.

Hours of Employment and Undergraduate Grades

The relationship between employment of traditional-aged undergraduate college students and their grades was examined, controlling for confounding factors such as study effort, full-time enrollment, gender, transfer status, family financial support, parental college graduation, faculty interaction, and marital status. Logistic regression analysis revealed that students who worked a larger number of hours per week had lower odds of being A students.

Mary E. Pritchard, Northern Illinois University¹

Increasing numbers of traditional-aged college students are employed during the academic year, which takes time away from other student activities such as attending class, studying, and participating in campus organizations. What are the implications of these time use decisions? One might speculate that employment helps students gain skills and knowledge relevant to career goals; apply theories in the "real world"; and develop responsible time management and work patterns. Conversely, employment might interfere with class responsibilities. A review of the current literature provides limited answers to this question. Therefore, the study was undertaken to explore the relationship between undergraduate college student employment and academic achievement, controlling for confounding factors.

Methodology

Data

Data were collected from a sample of undergraduate students at a large midwestern public university and included 562 undergraduate respondents aged 27 and younger (traditional aged college students in this study). The sample consisted of 21% freshmen, 19% sophomores, 29% juniors, and 32% seniors.

The College Student Experiences Questionnaire (CSEQ) was used in the study. It was developed by C. Robert Pace at UCLA to assess the quality of undergraduate student education and sources of student progress toward important college goals. This instrument was a valuable source of information for the research question because it included information about time spent working and studying as well as an estimate of the quality of effort expended by the student. Unfortunately, the data set did not include measures of student ability such as ACT scores or high school grades.

In this sample, most of the students (96%) were single, white (83%), entered college at the institution (70%), and were full-time students (96%). Respondents were nearly equally divided by gender (55% female) and as to whether at least one parent attended college (48%). Over 70% received some financial support from their families, with 35% receiving family support for all or nearly all of their expenses. The sample was representative of the undergraduate population at the university in race, gender, and proportion entering college at the institution. However, the sample was higher than the average for the university in full-time student status.

Surprisingly, 45 percent of the respondents reported that they were not usually employed during the academic term. Employed students reported their normal weekly work commitment was 10 hours (20%), 15 hours (16%), 20 hours (12%), 30 hours (4%), and more than 30 hours per week (3%).

Analysis

Empirical examination of the relationship between grade point average and hours worked was done through a set of logistic regression analyses designed to examine levels of academic performance. The dependent variable was student achievement, measured by average grades, as reported by the students. Students grades were compared for three levels of reported grades: A compared with A- or below; B+ or higher compared with B or below; and C+ or higher compared with C or lower.

The independent variable was hours of employment reported in six levels representing five and ten hour increments, ranging from none to thirty hours of employment per week. Covariates in the analysis represented factors that might influence grades and employment including: level of family support for college expenses, parental college graduation, marital

status, quality of student effort in coursework, full-or part-time enrollment status, gender, college transfer status, quality of faculty interaction, and time spent in class preparation (Ehrenberg & Sherman, 1987; Horn & Maw, 1994; Juster & Stafford, 1991; Levin & Tsang, 1987; Stern, McMillion, Hopkins, & Stone, 1990).

Findings

Nearly nine percent of the respondents reported that they normally received grades of A or better. Variables that were significant in predicting the likelihood of being an A student ($p < .01$) were time worked (negative); marital status (married achieved higher grades); and being a part-time student.

The model comparing B+ or better students with B or lower students did not show time worked to be significantly ($p < .01$) related to the odds of having B+ or better grades. Variables that were significant in this model were marital status (married achieved higher grades) and time spent studying (positive). Quality of effort expended by the student in course preparation was positively related ($p < .05$).

A third pattern was observed for the model comparing C+ or better students with C or lower students. The strongest predictor of the odds of receiving a C+ or better was students' reports of the quality of experience with faculty ($p < .01$). Males were more likely than females to receive a C+ or better ($p < .05$).

Discussion

For students in the present study, time spent working was predictive of the odds of having a particular grade average only for students with A grade average. However, time spent studying and quality of effort expended toward course learning were important in only the B+ model.

It appears that the relationships explored in this study are complex and possibly represent latent factors. Future analysis might include causal modeling analysis to examine latent factors that underlie the observed relationships.

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Endnotes

1. Associate Professor and Chair, Department of Human & Family Resources Northern Illinois University, DeKalb, IL 60115.

Utilizing Focus Group Interviews for Testing Theoretical Framework Viability

The purpose of this study was to test the viability of utilizing person perception theory as the theoretical framework for future consumer studies involving mature consumers and retail sales personnel. Focus groups were conducted with both groups. Results suggested that person perception theory can be utilized to explain the retail sales encounter between these two groups.

Julie Johnson-Hillery, Northern Illinois University¹

Jikyeong Kang, University of Wisconsin-Madison²

One of the most significant trends affecting American society today is the dramatic rise in the number of persons over age 65. Marketing practitioners and marketing researchers have begun to recognize the importance of this segment, not only because of their increasing size and wealth, but also because the elderly have been identified as having marketplace needs different from other segments. Relevant to the current study are the findings that mature consumers seem especially sensitive to the treatment they receive from retail sales personnel. Although mature consumers are generally not satisfied with the service they receive (Braus, 1990; Lambert, 1979), studies, to date, have not thoroughly examined *why* mature consumers are unhappy with retail service. This is due, in part, to the fact that most studies have examined the consumer separately from the retail sales personnel. Therefore, researchers need to examine the interaction between these two groups to identify variables that better explain mature consumers' dissatisfaction with retail sales personnel.

A theoretical perspective that may be especially appropriate in examining the behavior of retail sales personnel in their interaction with mature consumers is that of person perception (Secord & Backman, 1964). Social psychologists are interested in person perception mainly because it focuses on the processes by which impressions or feelings about other persons are formed and because of its relevance to understanding human interaction, which in this case is the retail sales encounter.

The purpose of this study was to test the viability of using person perception theory as the theoretical framework for future consumer studies examining the sales encounter between retail sales personnel and mature consumers.

Method

This study utilized three focus group interviews with mature consumers and three focus group interviews with retail sales personnel. Thirty-six mature consumers (65+) participated in the consumer focus groups and thirty-one retail sales personnel were participants in the retail sales personnel focus groups. The elderly consumer samples were secured from three different elderly housing complexes. Retail sales personnel were recruited through department stores since studies have suggested that this type of retail establishment is the preference for mature consumers. Prior to the interviews, a moderator guideline, based on a thorough review of marketing literature, was prepared to identify salient concerns of each group in their interactions with each other.

Data Analysis

To evaluate the data collected in the focus group interviews, the qualitative computer program AQUAD® was used. Unlike many qualitative analysis programs, AQUAD® allows the user not only to search for words and phrases that occur in the data text and examine their frequency, but the program can extract words together with their context. The first step in analyzing the data was to prepare typed verbatim transcripts from audiotapes of the interviews. Data were then coded and the following three types of analysis were performed: (a) content analysis for frequency of words in their context, (b) content analysis for elderly consumer/retail sales personnel interaction variables, and (c) content analysis of person perception variables.

Results

Results of the content analysis for frequency of words revealed that retail sales personnel, especially those on commission, were most concerned with the amount of time required of them from mature consumers. This was juxtaposed with the fact that many mature consumers expressed concern that retail service has been worse since most stores eliminated sales personnel commissions. In analyzing the data for positive, neutral and negative elderly consumer/retail sales personnel interaction variables, mature consumers were most likely to be unhappy with the service they received from retail sales personnel. A content analysis of person perception variables revealed that the data included (a) "affective reactions" variables, which are governed by a person's prior experience and belief about a particular group of individuals, and (b) similarity-attraction variables, which suggest that persons are attracted to other individuals whom they perceive to be similar in attitudes, values and beliefs to their own. These variables explained mature consumers' comments that older retail sales personnel were more knowledgeable and more willing to help them than were younger retail sales personnel.

Conclusion

Person perception theory is a viable theoretical framework for future consumer studies examining the interaction between retail sales personnel and mature consumers. By utilizing this theory, consumer researchers can begin to better understand *why* mature consumers are generally dissatisfied with the service they receive in retail establishments. This would not only add to researchers' theoretical knowledge, but also could lead to more service satisfaction for mature consumers.

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1. Assistant Professor, Department of Human and Family Resources, Northern Illinois University, DeKalb, IL 60115.
2. Assistant Professor, Department of Consumer Sciences.

Factors That Contribute to the Wage Gap Between Black and White Women

Though the role of the woman in the labor market is more defined, there is still some ambiguity in terms of the differences that exist between black and white women. Much of the difference has to do with equity. Many studies have been conducted to examine wage differentials in terms of gender and race, but little has been done to analyze gender-specific racial differences. The wage gap that exists between black and white women is attributable to differences in human capital factors and the presence of structural labor market forces.

Tiffanye H. Porter, The University of Georgia¹

There have been numerous studies conducted to investigate gender and racial differentials with respect to the wage gap. Although the role of the woman in the labor market has changed over time, very little has been done to investigate wage differentials among women by ethnic group. Today, women's roles and opportunities in the labor market may be more defined, but there still exists some disparities between the roles of and opportunities for women of different ethnic groups. This is particularly true in reference to black and white women.

In order to analyze the significance of the racial wage gap between black and white women, it is necessary to know the impact(s) of black-white wage differential in general. According to Gyimah-Brempong and Fichtenbaum 1993, the primary contributors to the wage gap between blacks and whites are personal attributes such as education, marital status, age and other such human capital characteristics. It is argued that blacks, particularly black women, lack the vital characteristics necessary for competitiveness in the labor market, do not possess these vital characteristics in as large a quantity as whites, or may be handicapped by consistently possessing those characteristics that are not conducive to high earnings potential. Indeed, results have shown that personal attributes have an obvious impact on the wage gap, but there are other forces at work in the labor market that influence this gap.

Structural forces, otherwise known as discrimination, have an impact on the wage gap as well. The structural approach suggests that discrimination influences the wage gap. Based on this suggestion, it is necessary that an investigation of both the human capital and structural approaches be conducted so that a clearer view of the extent to which each approach affects the

wage gap between black and white women may be obtained.

Implications also exist in terms of consumer buying power. White women's wages have been increasing at an increasing rate, while black women's wages have increased at a decreasing rate (Malveaux 1986). This suggests that both groups have experienced real and nominal increases in their earnings, but the faster rate at which white women's wages have increased has made it easier for them to purchase the higher priced goods than their black counterparts.

The purpose of this study was to illustrate the impact that the human capital and structural labor market approaches have on the wage gap between black and white women. It was the contention of the author that the wage gap between black and white women is influenced by differences in such human capital factors as education, occupational classification, presence of children of ages six and below, marital status, and labor force participation rates. Furthermore, such structural forces as region and race also contribute to the wage gap between black and white women.

Methodology and Analysis

The cross-sectional data for this research were taken from the 1990 Census of Population (Social and Economic Characteristics). The dependent variable for the study is the wage gap between black and white women in 1990. It was measured as the difference in the annual earnings of black and white female wage earners. The explanatory human capital variables were the educational, occupational, child-six, marital rate and labor force participation rate gaps; the explanatory structural variables were region and race.

The following relationships were posited:

$$WG90_i = \beta_0 + \beta_1 EDG90_i + \beta_2 OCCG90_i - \beta_3 CSG90_i - \beta_4 MARG90_i + \beta_5 LFPRG90_i + \beta_6 REG + \beta_7 RACE90_i$$

where: $WG90_i$ = the wage gap; $EDG90_i$ = educational gap; $OCCG90_i$ = occupational gap; $CSG90_i$ = difference in the number of black versus white women in the labor force with their own children age(s) six and below; $MARG90_i$ = the marital rate gap; $LFPRG90_i$ = labor force participation rate gap; REG = regional classification for the state 1 is South and 0 otherwise; $RACE90_i$ = racial composition of the population in 1 if the state's black population density was above the national average and 0 otherwise. Ordinary Least Squares Regression was used to estimate these relationships. Results are shown in Table 1.

Table 1:
Statistical Estimates of the Wage Gap between
Black and White Women

β_0	2696.73963
$EDG90_i$	134.66665** (2.32938)
$OCCG90_i$	5.88217* (1.84959)
$CSG90_i$	-114.77932 (0.84202)
$MARG90_i$	-80.74847** (1.82784)
$LFPRG90_i$	306.25460** (2.36411)
REG	212.11847 (0.13038)
$RACE90_i$	1840.65865* (1.32325)
R^2	0.4301
F	4.098

***significant at 0.01 ($t_a = 2.423$) ** significant at 0.05 ($t_a = 1.684$)
* significant at 0.10 ($t_a = 1.303$) $F_a = 2.18$

Conclusions and Implications

These results suggest that the labor market may not be perfectly competitive, but the playing ground is probably more level than people might think. The results also suggest that the wage gap that exists between black and white women is due in larger part to differences in human capital than structural forces. The

structural forces do exist, but these results suggest that they do not have a sharply significant effect. Roughly 43% of the total variation in the wage gap can be explained by the factors which were identified. This is acceptable given the cross-sectional nature of the data.

It is interesting to find that human capital factors play such a vital role in this wage gap. Studies have shown that black women have realized increases in levels of education, are moving into the higher echelons in terms of occupational levels and have strengthened their presence in the labor force. If this is the case, one would expect to find that the wage gap has narrowed over time such that black women might realize gains in these advances. In addition, differences in human capital and the presence of structural forces would both have more of an impact in earlier years than in more recent years. Subsequent research will examine the impact that the wage gap, in presence of the other variables, has on differences in buying power.

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Endnote

1. M.S. Student, Housing and Consumer Economics, Dawson Hall, Athens, GA 30602-3622.

Korean Working Wives' Employment Cost: Married Women's Resource Consumption Depends on Employment Status

The differences in resource consumption of married women whether they are working or not were defined as the employment cost of working wives which is a new concept for this purpose. Time, energy, monetary and personal/psychological employment costs were considered. Several characteristics of married women that have effects on resource consumption were identified. Three multiple regression equations and one tobit equation were used for the quantification of the employment cost of Korean working wives.

Sook-Jae Moon, Ewha Women's University¹
Hye-Yeon Kim, Cheju National University²

Introduction

The participation of married women in the labor market has increased steadily in recent years. For example, 43.0% of married women were in the labor force in 1994 as compared to 34.1% in 1990 and 33.6% in 1983. The effects of the employment status of married women on themselves as well on the household have been an issue in Korea. Certainly, the employment of wives brought additional earnings by a second worker, and contributed to raising the income of household. This economic role of wives' earnings is even crucial for many families which are at the level of poverty. The need for pursuing a career has been also increasing among housewives. Many studies, on other hand, emphasized that working wives have experienced the price of being employed. Working wives work longer, rest shorter, spend additionally for services, and experience serious role conflict in contrast to full-time housewives. These discussions about the employment cost of working wives were studied comprehensively. Furthermore, there are no estimates available for the change in resource allocation of working wives. The objective of this study was to compare and predict the differences of married women's resource consumption whether they are working or not, and determine the costs of employment for Korean working wives. They include the longer working hours (time cost), shorter leisure hours (energy cost), the increase of expenditures for services (monetary cost), and the higher incidence of role conflict (personal/psychological cost).

Data was obtained by interview during the period of November, 1994 through February, 1995. The sample totalled 652 Korean two-parent households with at least one child under 18 years old: 339 working wives

and 313 full-time housewives. Time and energy resources consumption of wives were examined by average total working hours per week spend in paid work and household work, and the hours spent in leisure activities, separately. Money resource consumption of wives was estimated from average monthly expenditure for services, which included food away from home and babysitting. The role conflict related to psychological resource consumption was measured with the nine questions on a 5-point Likert scale. Multiple regression model was employed in the case of time, energy, and psychological resources consumption. Tobit model was used for money resource consumption because of censored data. The independent variables for the analyses included the number of children and the age of the youngest child in the family, wife's education, household income, whether the wife is working, and the family type. The latter two variables were dummy variables.

Findings

It was found that differences in the resources consumption by the two groups were all statistically significant from the results of the t-test analysis at the level of .001. Total working hours of married women were positively affected by the number of children, while the education of wives was negatively related. The coefficient of wives' employment status was larger than other variables. This shows the work load of wife may determine whether she is working or not. The hours spent in leisure activities of wives were positively related to the age of the youngest child, the education of wife, and the employment status of wife, however, the number of children had a negative effect. Leisure time of wife

was affected strongly by employment of wife, the number and age of children were also major factors. The expenditure for food away from home was positively affected by household income, and the employment status of the wife. In contrast to this, the expenditure for babysitting service was related to all independent variables to be considered and positively affected except two variables, the age of the youngest child and the working of wife.

These results support other studies about household expenditures for services and suggest the importance of the factors related to the level of family economy, children, and the employment of wife. As earlier studies have emphasized, the role conflict experienced by wives related negatively to only two variables, the age of the youngest child and the employment status of wife. In effect, the employment status of married women was the most significant variable found in four equations of resources consumption.

Using the average values of the significant independent variables, the employment cost for working wives could be estimated. The time cost caused by the increase of total working hours and the energy cost from decreasing leisure time of working wives were about four hours and two hours, respectively. Therefore, it is predicted that working wife works about four hours longer and their leisure time decreases by about two hours in average compared to a full-time housewife. If a housewife works, she has to pay in average 15,000 won (US \$20) for food away from home and 220,000 won (US \$280) for babysitting service, additionally. It is estimated that a working wife will also experience psychological cost in average five or six points higher on the Likert scale of role conflict than a housewife.

Conclusions and Implications

The average working hours of workers in industry has decreased (7.6 hours, in 1992) and the time for leisure activities has increased in Korea. The estimates of time, energy, and psychological cost show that the workload and role conflict of Korean working wives due to their dual role are serious. In the case of monetary cost of working wives, the findings of this study are important. The monetary cost amounted to the 1/5 of working wives' income, in average. The babysitting service is the largest part of the expenditures if a housewife is working. The additional expenditure for the food away from home was not significant, it is questionable that the working wives themselves will regard the food costs as a real monetary cost of employment. Nevertheless, the additional expenditures

have to be taken into account in the estimates of the economic gain of housewives' employment. These results have important implications for the family which has to make the decision about whether a housewife will work or not, and keep working or not. The empirical findings related to the allocation of time and money resources, and relative importance between them among family members can be useful for research and studies for the employment of wives. The information from this study will also contribute to developing a policy for Korean working wives.

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1. Professor, Department of Household Administration, and Dean, College of Home Science and Management, Ewha Woman's University 11-1, DaeHyun-Dong, SeoDaeMoon-Ku, Seoul, (# 120-750), KOREA
2. Assistant Professor, Department of Home Management, College of Natural Science, Cheju National University, Ara 1-Dong, Cheju City, Cheju Island (# 690-756), KOREA

Consumer Awareness of Laws and Regulations

Consumer knowledge on a variety of state and federal laws and regulations related to consumers' rights and responsibilities were tested. Two hundred and fifty nine households were surveyed. This study was conducted in conjunction with the Consumer Protection Division of the Northwestern District Attorney's office in Massachusetts. Although consumer awareness appeared to be high among this sample, certain differentials in the responses associated with either a specific consumer area or with the respondents' socioeconomic characteristics were observed.

M.J. Alhabeeb, University of Massachusetts¹
Sheila Mammen, University of Massachusetts²
Steve Gary, District Attorney Office³

According to Uhl's model, a dynamic and interactive relationship between business self-regulation, government laws and legislation, and consumer education is fundamental in the process of consumer protection (Uhl, 1970). Feldman (1980) argues that those consumer protection measures have much broader implications than their role in the solution of specific problems suggests. Taken individually, their effect on our market system maybe negligible or moderate. Collectively, however, they may exert a profound influence on its future course.

Since business self-regulation on a full scale seems to be an unrealistic and unattainable goal to be achieved in a profit-oriented and corporate-powered system, consumer education along with the state and federal regulatory and legislative power should lead the way in protecting consumers in the marketplace. In fostering the economic welfare of consumers, governments do not only regulate the market to discourage or ban undesirable practices, they also educate consumers to be more aware of their options and be able to act more effectively in their individual interests (Lee & Zelenak, 1990). Consumer education, therefore, becomes an essential tool in protecting consumers in their pursuit of a higher welfare. However, in spite of their role in consumer protection, businesses and governments have no way of magically protecting consumers. Consequently, consumers bear the responsibility of utilizing their rights, accepting their responsibilities, being informed of the existing laws and regulations, and being active in updating those rights and responsibilities for the ultimate fairness of all market transactions.

Consumers tend generally to be willing to accept and fight for their rights more than to accept and

be committed to their responsibilities (Davis, 1979; Crawford, Lawrence & Prawitz, 1995). Consumers' unfamiliarity with their rights and responsibilities does not only open the door wide for market malpractices, but also limits their abilities to make free and satisfactory choices. While consumer education has been empirically found to increase consumer knowledge (U.S. Senate Committee on Commerce, 1993), accumulated consumer knowledge can, in turn, be very effective in determining the types of evaluation process which mediates the final value judgements for consumer decisions (Sujan, 1991).

Objectives and Rationale

The major objective of this study was to gauge the level of consumer knowledge on a variety of state and federal laws and regulations related directly to consumers' rights and responsibilities. Another objective was to examine the association between consumer knowledge and household socioeconomic and demographic characteristics.

The consumer awareness profile resulting from this survey will help identify strategies which would be a key element in the development of a strategic and effective community education program in consumer protection.

Methodology

A questionnaire was sent to eight hundred households in Hampshire and Franklin counties in Northwestern Massachusetts. Questions covered a variety of basic consumer concerns in the most complained about areas such as used vehicle acquisition and repairs, warranties, purchase contracts, debt

collection, credit reports, security deposits, lemon law, home improvement, defective products and return policies. Four mailings were conducted within a period of six months (November 1994 - April 1995). Two hundred and fifty nine responses were received, representing a response rate of 32%.

Sample Characteristics

Two-thirds of the respondents were female, half of the respondents were between the ages of 30 and 49, over one-third of them were in managerial positions. The overwhelming majority had full-time employment, nearly one-fifth had at least a college degree or more. Over half of the respondents were married. The respondents were overwhelmingly white, two-thirds being homeowners. Three-fourths of the sample had an income of \$40,000.

Findings

In general, consumer awareness appeared to be high among this sample. However, there was a differential in the response depending on the specific consumer area and the respondent's socio-economic and demographic characteristics. The respondents were less likely to provide the correct response to state laws as compared to federal laws. In particular, there seemed to be a lack of awareness in the areas of return policies, warranties, car inspections and used vehicle warranty laws. At the federal level, the respondents were generally unaware of their rights in the area of debt collection and unordered merchandise. Consumers were most knowledgeable about their rights in the areas of winning a prize, written estimates for auto repair, source of obtaining their credit history and security deposits.

The responses were analyzed using a number of socio-economic and demographic variables such as age, gender, level of education, race, occupation, marital status, income and home ownership. Consumers who were home owners and those with full-time employment were more knowledgeable than renters and those with part-time employment. Divorced and widowed consumers were more aware of their rights than single or married individuals. Surprisingly, consumers with lower levels of education were more likely to be knowledgeable of consumer laws than those with higher levels of education. The variables age, race, gender and income did not make a significant difference in the level of awareness of consumer rights.

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Endnotes:

1. Assistant Professor, Department of Consumer Studies. 108 Skinner Hall, Amherst, MA 01003.
2. Associate Professor and Head, Department of Consumer Studies.
3. Director, Consumer Protection Division.

Factors Useful in the Prediction of Satisfaction with Choice of Retirement Community

Components comprising human and economic capital were helpful in predicting satisfaction with choice of continuing care retirement community (CCRC) and its characteristics. Perception about importance of location of CCRC was not a predictor of satisfaction. Implications for professionals include usefulness of the findings in guiding elderly consumers in effective spending of retirement income.

Aimee D. Prawitz, Northern Illinois University¹
Frances C. Lawrence, Louisiana State University²

The purpose was to investigate, within the context of the Deacon and Firebaugh (1988) family resource management model, the role that demands and resources (inputs) played in the prediction of satisfaction with choice of a continuing care retirement community (CCRC). Importance of location of the CCRC close to former home and importance of location close to family members were identified as demands. Human and economic capital, chosen to represent resources as inputs, was made up of four components: a) total family income, b) education, c) perceived income adequacy, and d) satisfaction with amount and availability of financial resources to meet needs.

After a purchase has been made, consumers engage in a postpurchase assessment to compare anticipated outcomes with actual outputs. When end results are consistent with anticipated outcomes, satisfaction results. Therefore, outputs were measured by the dependent variables, satisfaction with choice of CCRC and its characteristics.

Method

A random sample of 75 CCRCs, stratified by regions of the country, was drawn. Administrators of 22 of the drawn sample of CCRCs agreed to participate by providing names and addresses of residents who had joined the facility within the previous year. A questionnaire designed according to Dillman's (1978) "total design method" was sent to 650 subjects. A follow-up mailing sequence was used, and 374 returned usable questionnaires for a response rate of 58%.

Data Analyses

To determine if the hypothesized variables making up the *satisfaction with CCRC characteristics*

constituted a multidimensional construct, factor analysis was performed. Two distinct factors emerged: satisfaction with care aspects (services and costs), explaining 47% of the variance; and satisfaction with aspects of atmosphere (social climate and physical appearance), explaining 11% of the variance. Factor scores were generated for use in regression modeling. Multiple regression was used to test for relationships between the independent variables (importance of location as well as human and economic capital) and each of the dependent variables (overall satisfaction, satisfaction with care aspects, and satisfaction with atmosphere). Univariate tests helped interpret the results of the multiple regression testing.

Results

It was hypothesized that knowing the demands (importance of location) and resources (human and economic capital) of consumers selecting a CCRC would help predict satisfaction with the chosen CCRC and its characteristics. Multivariate multiple regression resulted in partial support for the hypothesis, as a relationship was found between the set of dependent variables (satisfaction with the CCRC and its characteristics) and human and economic capital, $F(21, 681) = 2.44, p < .001$.

Multivariate tests were conducted to determine if both human and economic capital and the importance of location should be retained in the model to predict individual satisfaction variables. Human and economic capital was useful as a predictor of overall satisfaction, $F(7, 247) = 2.58, p = .014$; satisfaction with care aspects, $F(7, 247) = 2.74, p = .009$; and satisfaction with atmosphere, $F(7, 247) = 3.50, p = .001$. Importance of location of the CCRC, however, was helpful in neither the prediction of overall satisfaction nor of satisfaction

with aspects of either care or atmosphere.

Univariate tests were conducted, and positive relationships were found between a) overall satisfaction and satisfaction with total family income, $t(247) = 2.09$, $p = .038$; and b) satisfaction with care aspects of the CCRC and satisfaction with the material things one has and uses, $t(247) = 2.52$, $p = .013$. There were negative relationships between a) overall satisfaction and satisfaction with resources available to meet a financial emergency, $t(247) = -2.32$, $p = .021$; and b) satisfaction with atmosphere and total family income, $t(247) = -2.60$, $p = .01$.

Conclusions and Discussion

The more satisfied CCRC residents were with their income, the more satisfied they were with the CCRC. The finding was somewhat supportive of past research, as Lawton (1980) found residential satisfaction among the elderly to be positively related to level of living (a measure of per capita income adjusted for household size and age).

Subjects reporting more satisfaction with the material things they had also reported more satisfaction with the care aspects of the chosen CCRC. Perhaps those who perceived they had the means to purchase things they needed or wanted were less concerned with the cost of care and therefore more satisfied with the fees charged for the services they received.

Those reporting less satisfaction with resources available to meet a financial emergency were more satisfied with the CCRC. The concept of the CCRC encompasses the guarantee of protection against the high costs of health services and long-term care. In some instances, CCRCs continue to provide care after resident's funds are depleted. It follows, then, that elderly persons concerned about adequate resources for emergencies, such as expensive health care services, would be more satisfied with a housing situation that offers security against such expenses.

CCRC residents who reported less satisfaction with their total family incomes were more satisfied with the atmosphere of the CCRC. Apparently, these consumers perceived they had "gotten their money's worth."

Implications

Professionals assisting consumers with financial decisions related to the accumulation and spending of retirement income will find the results of the study useful. The amount of retirement income consumers had and their perceptions about its adequacy

were predictors of satisfaction. For example, those who were satisfied with their retirement incomes tended to be satisfied in general with the CCRC they chose. Accumulation of wealth to provide retirement income, therefore, could be stressed to those consumers concerned about housing in the retirement years. Those with lower incomes were more satisfied with the atmosphere of the CCRC, indicating they perceived they had received their money's worth. Such findings might be used to help guide elderly consumers in the effective spending of retirement income.

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1. Assistant Professor, Department of Human and Family Resources, DeKalb, IL 60115. (815)753-6344, e-mail: aprawitz@niu.edu.
2. Professor, Agricultural Center, Louisiana Agricultural Experiment Station.

A Financial Crisis Clinic Supported by Consumer Affairs Students

Data from the Financial Crisis clinic indicate that most clients are seeking serious legal counsel. Few clients visit the clinic for basic budgeting advice.

Wendy Reiboldt, California State University, Long Beach¹

Background

For more than 20 years the Financial Crisis Clinic has counseled over 7,000 clients in a joint project with the Legal Aid Foundation, and students majoring in Consumer Affairs. This clinic serves clients who have been referred for legal counseling as a result of a significant crisis in their life related to income, budgeting, impending foreclosure, or bankruptcy.

The founder of the clinic is an attorney who volunteers his time. In addition, undergraduate students in Consumer Affairs are trained to do preliminary counseling of clients. Often times there are other attorneys who volunteer their time and offer discounts for their services.

This Study

Descriptive data were taken from a small convenience sample of intake forms used at the clinic. To date, 200 cases have been entered into the computer and analyzed (data include some of the cases from 1991-1993). It is the intent of the researcher to continue inputting data to capture a larger sample of the population, from a variety of years. This is especially important to understand historical patterns which may exist.

Results and Discussion

To get an idea about the typical case, I have provided descriptive data on 200 clients. Averages of several key variables are reported in Tables 1-4.

Table 1
Why do clients visit the clinic?

Clients have questions about . . .	
Bankruptcy	64%
Budgeting	12%
Legal advice	49%
Other	10%

(Note: more than 1 reason may be chosen)

Table 2
What are the demographics of the clients?

Marital status	%
Married	38%
Divorced	15%
Separated	13%
Single	29%
Widowed	3%
Average number of children	1.7
Average age of client	43.5
Average age of client's spouse	33.9

Findings indicate that clients using the clinic are generally deep in the "pit of financial despair". The typical client is 43.5 years old with a monthly gross income of \$1,105.86. Thirty-eight percent of the clients are married, with their spouses' monthly gross income at \$785.96.

Table 3
What is the financial situation of clients?

<u>Income and Assets:</u>	
Average monthly gross income of client	\$1,105.86
Average monthly gross income of client's spouse	\$ 785.96
Average value of total assets	\$ 10,396.78
<u>Debts:</u>	
Average amount owed on first car	\$ 3,904.78
Average amount owed on second car	\$ 3,716.67
Average amount owed on house (22.5% of clients were homeowners)	\$112,960.00
Average amount owed to other creditors (including credit cards, bank loans, money borrowed from family, etc.)	\$ 49,665.48

The typical client does not own a home, but owes more than \$3,000 on at least one car, and \$49,665.48 to other creditors. And, unfortunately, the most frequently reported reason why clients visit the

clinic is to ask questions about bankruptcy (64% wanted information about bankruptcy, while 49% wanted legal advice).

Table 4

What is the legal situation of the clients?

What is the proportion of clients which have . . .

Judgments against them?	28%
Pending legal action?	34%
Had assets repossessed?	16%
Experienced foreclosure?	7%
Filed bankruptcy?	8%

Prior to their visit to the clinic, 28% currently have a judgment against them, while 34% have pending legal action. Assets have been repossessed from 16% of clients, 7% have had their homes foreclosed, and 8% have already filed bankruptcy.

Summary

These results indicate that most visitors to the clinic are already in hot water. Only 12% of clients came for budgeting advice, most clients asked more serious legal questions. Data from the Financial Crisis Clinic can provide valuable information to educators, researchers, attorneys, etc. If consumers can be educated early and perhaps seek budgeting advice rather than bankruptcy advice, visits to the clinic may be prevented.

Endnotes

1. Assistant Professor, Department of Family and Consumer Sciences, 1250 Bellflower Blvd. Long Beach, CA 90814.

A Way of Improving Consumer Information in Korea

This study attempts to develop a simple and clear form of consumer information by introducing a price efficiency of each brand within a product category to product test reports. The price efficiency is estimated for four product categories using product test reports of the Korean Consumer Protection Board. The results show that the lower priced product categories are more efficient and also more diverse in the price efficiencies. This study implies that if consumers can determine the most efficient brand with the aid of a simple index of price efficiency, problems of information overload or misspecification can be substantially reduced.

Kee-ok Kim, Sung Kyun Kwan University¹

Introduction

Price has a pivotal role in a market economy. It is ultimately the consumer who decides whether to or not to buy a product at a market price. Consumer market efficiency can be improved if consumers can determine the most efficient brand for a set of characteristics within a product category by evaluating efficient price.

This study suggests one way of determining the most efficient brand by introducing a price efficiency of each brand within a product category to product test results. The typical product test reports are often to be hard to understand for less informed consumers in Korea. They could cause problems of information overload or misspecification in an evaluation process, and consequently consumers become confused and make poorer decisions. To avoid these kinds of complications with product test reports, a simple and clear form of consumer information has to be developed.

The purpose of this study is to develop a summary index of product test results, that is not only simple enough to understand but also an indicator of brand efficiency in terms of the highest value per dollar spent for a set of product characteristics.

Methodology

A brand can be defined efficient if it provides the highest value per dollar spent for that set of characteristics. Price efficiency (PE) is measured as the ratio between an efficient price (P^e) and an actual price paid (P) and can be formulated as the following:

$$PE = P^e/P. \quad (1)$$

The price efficiency of a brand sets to be one when the

actual price equals the efficient price and less than one if the actual price exceeds the efficient price.

The efficient price is obtained by the regression relationship of the following:

$$P_j = a_j + b_j X_j^i \quad (2)$$

for $j=1,2,\dots,n$ and $i=1,2,\dots,m$, where P_j equals the actual price paid for the j th brand among n brands within a product category and X_j^i is the i th characteristic among m characteristics of the j th brand.

Since the size of the consumer market in Korea is relatively small, the number of brands within a product category is also limited. Therefore, the regression equation is estimated for m characteristics of the j th brand separately and the efficient price for each significant characteristic is estimated by using actual characteristic value to the equation. Finally, the efficient price for the j th brand is calculated with the weighted mean of the efficient prices for significant characteristics by coefficient of determination, R^2 .

Data for this study are from product test reports of the Korean Consumer Protection Board. This study uses reports on four product categories--Juicers in 1989, toothpastes, hair dryers, and washers in 1992--to find any variations of efficiency across product categories. The number of brands within each product categories are 16 for juicers, 14 for toothpastes, 10 for hair dryers, and 5 for washers.

Results

The average price efficiencies for the four products are shown in Table 1. Since all of the mean price efficiencies exceed or are close to one, the actual mean prices are less than the estimated mean efficient

prices. The results across product categories indicate lower priced categories are more efficient in Korea. However, the lower the price of a product category is, the more diverse the price efficiency is. Therefore, consumers should be more cautious in selecting the most efficient brand among lower priced product categories than higher priced product categories.

Table 1
Price Efficiencies of Four Product Categories.

	Average price efficiency	Standard deviation
Toothpastes	1.25	0.454
Hair dryers	1.06	0.048
Juicers	1.02	0.014
Washers	1.00	0.001

Implications

This study shows a way of improving consumer information in Korea by estimating and adding the degree of price efficiency of each brand within a product category to existing product test reports. This information can indicate the extent to which a brand is overpriced relative to its close competitors. This information can provide a concrete basis for determining the highest value per dollar spent for a set of product characteristics. It also allows a comparison of the actual price of each brand with the efficient price at its particular combination of characteristics by multiplying the price efficiency with the actual price. This, in turn, gives useful information on product efficiencies for producers, who may use it for their pricing strategies. This study implies that improving the quality of consumer information has significant welfare implications for consumers in less developed consumer interest environments, such as Korea.

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1. Professor, Department of Home Management, Sung Kyun Kwan University, Chongro-ku Myungryun-dong 3-ka, Seoul 110-745, Korea.

A Decade in Perspective 1985-94: A Content Analysis of the Journal of Consumer Affairs

This content analysis was undertaken to assist the ACCI Board with their ongoing discussions on the direction of ACCI. The analysis included categorizing the subject of the papers and profile information on who publishes in JCA.

Elizabeth M. Dolan, University of New Hampshire¹
Frances C. Lawrence, Louisiana State University²

Content analysis studies are effective devices to produce profiles of journals. Such a study was conducted on the Journal of Consumer Affairs (JCA) for the issues published from 1975 through 1984 (Geistfeld & Key, 1986). The purpose of the current study was to replicate the Geistfeld and Key study for the 1985 through 1994 issues of JCA for the ACCI Board.

With the exception of book reviews, all papers appearing in JCA during the 1985 to 1994, including the Colston E. Warne lectures, shorter papers, and viewpoints and communications, period were part of the content analysis. During this 10-year period, 201 articles were published, representing the work of 378 authors from 197 universities or colleges and 49 other institutions.

The majority of articles were written by one or two people. Forty-five percent of all the articles written during the ten-year period had two authors, 35% had a single author, 16% had three authors, and only 3% had four or more authors. Authors of articles published in JCA are, by-and-large, from academic institutions. Faculty from the University of California, Davis were the most frequent authors (18) during the period and the majority of these (13) appeared in the 1985-89 issues. Cornell University was represented by 17 authors, and University of Maryland by 16 authors. The most frequent non-academic affiliation for authors was the United States Department of Agriculture (13).

Academic rank of authors was relatively evenly divided: 27% were professors, 23% associate professors, and 27% assistant professors. Five percent of the authors were graduate students and 1% instructors or lecturers. Twenty percent of the authors did not hold academic rank.

An examination of authors' academic area revealed interesting results (Table 1). The majority (41.3%) of authors publishing in JCA during the 1985-94 period were from business or economics. Only 25%

were from home economics, primarily the consumer, family economics, or resource management fields.

Table 1
Academic Area of JCA Authors, 1985-94

<u>Academic Area</u>	<u>Total %</u>
Home Economics	24.9%
Agricultural Economics	9.3%
Business or Economics	41.3%
Research Center	2.1%
Psychology or Sociology	4.5%
Other Academic Area	9.8%
Non-academic affiliation	7.9%
Not given	0.5%

Categorizing the articles by subject area, based on the categorizations and definitions used by Geistfeld and Key (1986), revealed that the largest proportion of articles fell into the "miscellaneous category" (18%). The most frequent topic was "information acquisition and utilization" (16.5%), followed by "policy analysis development and evaluation" (15.5%), and "consumption, income and economic issues" (13.5%) (Table 2). From 1985-89, "information acquisition and utilization" accounted for 26% of the total, while from 1990-94 only 6.9% of the articles were on this topic. During the 1990-94 period, the "miscellaneous" category accounted for almost 27% of the total.

Being intrigued by the number of articles falling into the "miscellaneous" category, a second method of categorization was employed: the "ACCI relevant subject areas" which pinpointed members' areas of interest. Using these topical headings, 32% of the articles were classified as "consumer economics," with "consumer behavior" (21.4%) the next most frequent

category. Thirteen percent of the articles were on "family finance" topics. About 5% of the articles were classified as "family economics."

Table 2
Subject Categories of Articles 1985-89, 1990-94

Subject	85-89	90-94	Total
Decision Making & Information Search	6.0%	13.8%	10.0%
Consumerism & Consumer Movement	5.0%	4.0%	4.5%
Consumer Education	4.0%	-	2.0%
Careers & Programs	2.0%	1.0%	1.5%
Consumption, Income & Economic Issues	26.3%	6.9%	16.5%
Satisfaction/ Dissatisfaction	6.0%	7.9%	7.0%
Policy Analysis, Development & Evaluation	16.2%	14.9%	15.5%
Product Quality	9.0%	1.0%	5.0%
Market Structure & Operation	1.0%	11.9%	6.5%
Miscellaneous	9.0%	26.7%	18.0%

Summary

The content analysis was requested by the ACCI Board as part of the discussion on the direction of ACCI as an organization. It can also be used to stimulate discussion as to whether the Journal of Consumer Affairs is fulfilling its stated editorial policy, and meeting the needs of the membership. Additional analyses could determine if the journal's focus has changed over time.

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1. Associate Professor, Department of Family Studies, 55 College Rd., Durham, NH 03924.
2. Professor, School of Human Ecology.

Home Health Care Utilization Patterns among the Elderly

This paper examined the factors affecting home health care utilization patterns among the elderly using the 1987 Medical Expenditure Survey. Major findings from this study indicated that health status, Medicaid benefit and private insurance coverage were the most significant factors predicting the utilization.

Soo Yeon Kim, Purdue University¹

The incidence of chronic illness and disability with age has led to great attentions for researchers and policy makers on long term care service. Largely, long term care for the elderly includes institutional care (e.g. nursing home care) and community-based care (e.g. home health care). In the past decades, home health care has been the focus of long term care because it has been an important substitute for institutional care. Besides, home health care expands the concept of time and space for care and puts priority on the convenience of the patients because an array of health and social support services can be provided to clients in their own residence (Sorochan & Beattie, 1994). Empirical studies on home health care, however, are very limited. The purpose of this study is to examine the factors associated with home health care utilization of those who are age 55 and over, using the 1987 National Medical Expenditure Survey (NMES).

The data used in this study, the 1987 NMES, provide detailed information on health care expenditure by households and individuals. The sample (N=6295) was grouped into the young-old group (age 55-64), the old group (age 65-74), and the old-old group (age 75+) to compare the differences among them. The dependent variable, home health care utilization, was measured by the number of visits made by physicians and non-physician providers, such as nurses, nurses aides, therapists, and home health aides. The independent variables were grouped into four components: socioeconomic factors, demographic factors, price factors, and health-related factors. Socioeconomic factors included total family income and education. Demographic factors were gender, race, family size, availability of informal care, geographical residence, employment, and marital status. Number of bed-days and number of cut-down days represented the health status of the respondents. Price factors accounted for private insurance coverage, Medicare, Medicaid, and other public support programs. In the estimation, Tobit

analysis was used because only less than 10% of respondents were found to use home care service. For the limited dependent variable, ordinary least squares regression procedure may be asymptotically biased (Kennedy, 1992).

According to the sample characteristics, Only 8.1% of the elderly were found to be Medicaid beneficiaries. Almost 80% of the elderly were beneficiaries of other private insurances. The findings from tobit analysis in the model of total sample suggested that the older, unmarried female elderly were more likely to use home care service. Health status and Medicaid benefit were found to be positively related to the utilization. The availability of informal caregiver (e.g. family members or friends) was not found to be significant factor. Among the young-old elderly group (age 55-64), the unmarried and those who had higher number of bed-days were more likely to use home care. In addition, Medicaid benefits and the availability of other insurances such as retiree insurance, CHAMPUS, VA, other public assistance and private health insurance were found to be significantly related to home care utilization.

For the old group of age 65-74, health status including number of bed-days and number of cut-down days was significantly related to home care use. Medicaid benefit was also a significant factor predicting home care use. Family size affected negatively home care utilization, which implies that family members living with elderly persons may provide informal caregiving, so the elderly with larger family size were less likely to utilize formal home care served by a variety of medical providers.

For the old-old group (age 75+), health status and Medicaid benefit were found to be strong predictors. It was confirmed that age was a proxy indicating health status. The older, unmarried female elderly were more likely to use home care.

Findings indicated that for elderly persons, health status and price factors such as Medicaid benefit and private insurance coverage were the most significant predictors determining home health care utilization. The results of this study implied that family or social resources for meeting the increasing demands for home health care by the elderly are necessary. In addition, the recent controversies over health care reform including Medicare and Medicaid programs confirm that alternatives for long term care financing should be provided in the near future.

Acknowledgements

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Endnote

1. Graduate Student, Department of Consumer Sciences and Retailing, 1262 Matthews Hall, West Lafayette, IN 47907-1262.

Factors Related to Household Risk Tolerance: An Ordered Probit Analysis

Jaimie Sung, The Ohio State University¹
 Sherman Hanna, The Ohio State University²

Based on an expected utility and simulation approach to optimal portfolios, Hanna and Chen (1995) proposed separating risk tolerance into subjective and objective components. They suggested using a hypothetical question for measuring subjective risk tolerance, and the ratio of financial assets to total wealth (including human wealth) for measuring objective risk tolerance. The purpose of this paper is to investigate the effects of income and demographic characteristics on risk tolerance. The results from this paper can be useful for financial counselors and financial planners to provide advice to their clients seeking optimal portfolios. If levels of risk tolerance vary systematically with financial and individual characteristics, financial counselors/planners can give better investment portfolio recommendations.

The data used for this analysis were from the 1983 and 1986 Surveys of Consumer Finance (SCF). The surveys were sponsored by the Federal Reserve Board and several other federal agencies and were collected by the Survey of Research Center of the University of Michigan. The sample for the 1983 survey includes interviews from a standard multistage area-probability sample of 3,824, along with a supplemental survey of 438 high income households from tax files (Avery & Elliehausen, 1987). Respondents were asked:

1. When you save or make investment, would you take substantial financial risks expecting to earn substantial returns.
2. When you save or make investment, would you take above-average financial risks expecting to earn above-average returns.
3. When you save or make investment, would you take average financial risks expecting to earn average returns.
4. When you save or make investment, would you take no financial risks

After categories 1 and 2 were combined into one, three categories are used as ordinal dependent variable in this study. In the entire sample of 2,755, 40% were willing to take above-average and substantial

financial risks, 42% were willing to take average financial risks, and 18% were unwilling to take any financial risks. The proportion willing to take average financial risks was 41% for the youngest (age less than 25) while it was 24% for the oldest (age 75 and more). The proportion willing to take above average or substantial financial risks increased as education level increased (10% for less than 9 years vs. 32% for more than 16 years). Single females were less likely to take say they would take financial risks than single males and married (54% for single female, 34% for single male, and 36% for married). The proportion willing to take above average or substantial financial risks increased up to income \$70,000-79,999. Those in the highest income group were most likely to take financial risks (46% for above average or substantial.)

The independent variables were income, income squared and demographic variables including age, household size, education, occupation, race, number of earners and household type. Total household pretax income was adjusted by the 1982-1984 Consumer Price Index (CPI). Income was averaged over 1982, 1983, 1984 and 1985 to provide a better estimate of average lifetime income. The ordered probit model was used to analyze the effects of income and demographic variables on risk tolerance because there was an ordering to the categories associated with the dependent variable. The ordered probit model employs maximum likelihood methods to find values of β and μ_1 (Pindyck & Rubinfeld, 1991; Green, 1993). Some of the estimates of the ordered probit model are shown in Table 1. The combined effect of the linear and quadratic terms for income squared produced an effect that was positive and approximately linear for incomes up to \$100,000 per year. The effect of income remained positive, but at a decreasing slope, with the maximum positive predicted level at an income of \$1,120,000. The general pattern from the dummy variables for age was that risk tolerance decreased with age after 45. Risk tolerance increased with education. Self-employed and farmers were significantly more likely to be willing to take risks than otherwise similar households with different occupations. Married respondents and single males were

Table 1		(Selected results)
<u>Ordered Probit Analysis on Risk Tolerance</u>		
Variables	Coefficient	Significance
Income/10000	.0046	0.0001
Sq.of (Inc/1000)	-0.207E-05	0.0267
Age (vs. Age 45-54)		
Less than 25	0.0187	0.8391
25 to 34	-0.1196	0.0877
35 to 44	-0.0045	0.9500
55 to 64	-0.2031	0.0081
65 to 74	-0.2155	0.0182
75 & more	-0.3841	0.0016
Education (vs. less than 9 years)		
9-11 years	0.2420	0.0048
12 years	0.3971	0.0000
13-15 years	0.5828	0.0000
16 years	0.7866	0.0000
more than 16 years	0.8987	0.0000
Occupation (vs. no work)		
professional	0.0315	0.7449
manager	0.1462	0.1517
self-employed	0.3749	0.0052
sales	0.0902	
0.3194craftsman	0.1616	0.0951
laborer	0.0077	0.9303
farmer	0.5805	0.0173
μ_1	44.25	
Chi-square (30)	489.95	0.0000

more risk tolerant than otherwise similar female headed households. Blacks and Hispanics are less risk tolerant than otherwise similar whites, but the difference was only significant at the 10% level. Household size and the number of earners in the household did not have any significant effects on the willingness of taking financial risks.

This analysis indicated that income, age, education and household type were statistically significant variables to predict individuals' willingness of risk tolerance. In terms of the theoretical analysis of Hanna and Chen (1995), the risk tolerance measure in the 1983 Survey of Consumer Finance reflects both objective and subjective components of risk tolerance. The empirical analysis presented in this paper is consistent with that interpretation. The effect of income and of age is consistent with Hanna and Chen's concept of objective risk tolerance. As a household head ages, human wealth declines and the level of financial assets increases. Therefore, it is reasonable for reported risk tolerance to decrease, *even if subjective risk tolerance remains constant*. The lack of significant effects of age under age 45 may be reasonable, given that liquidity concerns, the need to accumulate emergency funds, the need to save to buy a home and to save for other short- or medium-term goals may make it a bad idea to take risks with investments, even if the individual is subjectively risk tolerant. The effect of occupation might reflect the self-selection process -- risk tolerant individuals were more likely to become self-employed.

The effect of gender (married and single males versus other household types) might possibly reflect differences in subjective risk tolerance, although more careful analysis and modeling of factors related to objective risk tolerance may be needed before strong conclusions can be drawn about gender differences.

To the extent that objective risk tolerance is the dominant factor in individual investment decisions, less stress should be placed on measurement of psychological measures of risk tolerance. Financial planners should focus on measurement of objective risk tolerance as proposed by Hanna and Chen (1995).

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Endnotes

1. Ph.D. student, Consumer and Textile Science Department.
2. Professor, CTS Dept., 1787 Neil Ave., Columbus, OH 43210. hanna.1@osu.edu
3. More is available at this web site: <http://www.hec.ohio-state.edu/hanna/res/js.htm>

Income Sources and Education Expenditures for Single-Mother Families: Implications for Public Policy

Data from the 1990-91 Consumer Expenditure Survey were used to investigate the effects of income sources and household demographic characteristics on education expenditures by single-mother families. Tobit regression results indicated that asset income had a significant positive effect on education expenditures, while neither child support nor public assistance income were significant. Policy makers could find these results useful in designing public programs that enhance the well-being of the single-mother families.

Yoon G. Jang, University of Missouri-Columbia¹

Single-mother families have been increasing rapidly in number during the past three decades. Children in these families often suffer from limited resources (both money income and time) because of the absence of the father from the home (Quinn & Allen, 1989). Children typically live with their mothers following disruption even though these mothers are the least able to support a family financially. However, fewer than half of all single mothers receive regular child support payments from the fathers of their children.

The purpose of this study is to identify the effect of income sources on education expenditures for single-mother families and to investigate factors associated with education expenditures among single-mother families. Since children raised by single mothers tend to have lower educational, occupational and economic attainment, compared with their counterparts from traditional two-parent families (Mueller & Cooper, 1986), the study of education expenditures is important to predict children's socioeconomic achievements from single-mother families. Because single-mother families have comprised the fastest growing segment of the poverty population during the past decades, investment in improving knowledge through formal schooling has important implications for the future well-being of these families. Further, it was recently observed (Beller, 1995) that income from all sources generally raise children's schooling, but that child support income appears to have a particularly large effect on children's educational attainment. Thus, findings of the effect of such income sources on educational expenditures by single-mother families could provide policy makers with a useful piece of information for designing public programs.

Methods

Using the 1990-91 Consumer Expenditure survey, the dependent variable was quarterly expenditures for education which includes household spending on tuition for all formal schooling as well as fees for lessons or other instruction. Because this research was investigating the effect of child support payments on educational expenditures, divorced and separated single mothers were included in the sample. Thus, the final sample consisted of 597 divorced and 319 separated mothers, totaling 916.

In addition to child support payments, two other income sources, family asset income and public assistance, were considered in the study. The presence of these three income sources was included in the model (1=have that income source) in order to assess their relationship with education expenditures. Household socioeconomic variables such as total expenditures (proxy for permanent income), mother's age, mother's education level, housing tenure status, region, family size, and number of persons in college were also included in the empirical model. Because approximately 69% of the sample reported zero value, tobit regression analysis was performed for education expenditures.

Findings

The mean value of total quarterly expenditures amounted to \$4,933. The mean value of education expenditures was \$88 per quarter. Among the single mothers, about 41% received child support/alimony payments. While 33.4% received income from public assistance, about 18% had income from assets.

Tobit results indicated that among the three income sources, asset income had a significant and

positive effect on education expenditures for single-mother families. Although the presence of child support payments did show a positive effect, it was not statistically significant. The results further indicated that transfer income had no effect on education expenditures, holding other factors constant.

As for the effect of sociodemographic characteristics on education expenditures, the result indicated that total expenditures as a proxy for permanent income was significant. Similarly, both age and the squared term of age showed significant effects but different directions, indicating that education expenditures increase as age increases in the short-term, these expenditures decrease as age increase until the age of approximately 42, at which point expenditures begin to decrease as age increases.

Among the socioeconomic characteristics, education of mothers demonstrated significant and positive effects on education expenditures. Single mothers who owned homes spent more on education than did single mothers who rented.

It was interesting to find that White single mothers spent less for education than did non-Whites, whereas mothers who are working in service sector jobs spent less on education than did their counterparts in other occupations. Among the four geographic regions, only the urban west indicated a significant and positive effect on education expenditures. In this study, family size showed no significant effect, but the number of members enrolled in college did play a significant role in determining family expenditures on education.

Discussion and Implications

In a recent study (Beller, 1995), it was observed that child support had relatively larger effect on children's educational attainment than other sources of income. On the other hand, the results of this study showed that asset income to be the only significant source in reference to educational expenditures. Further, the presence of public assistance income had no effect on family education expenditures. This result might imply that when single-mother families had income from public assistance program, it did not directly affect their educational expenditures.

The results of this study can be useful for policy makers seeking to enhance the well-being of single-mother families. For example, programs that teach money management and/or investment techniques might influence a family decisions regarding investment in education for the future, while helping that family build financial assets in the present. Furthermore, because many single-mothers who work in low-paying service

sector jobs typically spend less on education, programs could be designed specifically for that population. In that way, guidance could be offered on ways to cope with financial difficulties in the present, along with ways to plan meaningfully for a brighter future.

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1. Post Doctoral Researcher, Department of Consumer and Family Economics. Stanley Hall, Columbia, Mo 65211.

After Sale Services and Consumer Complaints: An Empirical Study

This paper utilized in-depth interviews to examine the relationships between the quality of after sale services and consumer complaints. The data indicate that after sale services can be classified into two categories: claim services and other after sale services. Both types of after sale services are associated with customers' level of satisfaction/dissatisfaction and their complaint behavior.

Yaolung James Hsieh, National Chengchi University¹, Taiwan

Service Quality and After Sale Services

Researchers have emphasized customer satisfaction (Walker 1995) and proposed several models since 1970s (Berry and Parasuraman 1991; LaTour and Peat 1979; Oliver 1980a; Parasuraman, Zeithaml, and Berry 1985, 1988). Of which, the disconfirmation model has been widely accepted (Cadotte, Woodruff, and Jenkins 1987; Oliver 1980a, 1980b; Olson and Dover 1979). In the disconfirmation model, among others, service quality has been an important consideration. Service quality is especially important in the services industry, given its nature of intangibility, inseparability, perishability, and heterogeneity (Zeithaml, Parasuraman and Berry 1985).

Although critical in leading to identification of service quality and customer satisfaction, after sale services have not acquired sufficient attention from scholars. Especially for some services industries with "credence" features (Zeithaml 1981), such as the life insurance industry, after sale services may be as important as services delivered during the purchase process, if not more important (Hsieh 1995a). In a services industry like this, customers' level of satisfaction after purchase is usually "undecided". As claimed by Berry and Parasuraman (1991), in the services industry, the outcome of service delivery is far more important than the process. However, since the probability of an insurance loss is usually low, customers may not be able to perceive the quality of outcomes (claims) as well as the process of delivering a claim after purchase. As a result, it is not easy for customers to judge whether he/she has made a satisfactory purchase. In other words, although customers have expectations of outcomes and process of services, they rarely have chances to perceive their quality. Levels of customer satisfaction, thus, may be more difficult to decide in the life insurance industry than other services industries.

Nevertheless, customers may feel "dissatisfied" when they compare their non-claim after sale services with what their friends, relatives, or other customers (either from the same firms or other firms) have received. For example, friends of these customers may receive phone calls from sales representatives regularly and greeting cards or gifts on holidays and these phenomena may be perceived as friendliness, hospitality, and caring shown by sales reps. Activities like this can make these customers jealous and feel dissatisfied. Although this dissatisfaction may not cause customers to discontinue their policies, they may complain to friends about their own sales representative's "indifference" or be reluctant to introduce new customers to this firm. No matter whether the customer adopts "voice responses," "private responses," or "third party responses" (Singh 1988) to complain, the damage can be huge and widespread, and cannot be ignored by business.

After Sale Services in the Life Insurance Industry

So what are after sale services that customers want in the life insurance industry? How can life insurance firms provide these services to satisfy their customers' needs? From a relational marketing perspective, customers' needs of after sale services may vary which is critical to success in the life insurance industry (Hsieh 1995b; 1994). However, before a life insurance firm can apply relational marketing appropriately, it should understand all the possible after sale services that their customers need or require to reduce the possibility of complaints and thus improve customers' level of satisfaction.

Purposes of the Study

The purpose of this study, consequently, is to examine types of after sale services that customers need or require and their association with levels of satisfaction and/or consumer complaint behavior. Since patterns of after sale services have not been proposed in the literature (to the author's knowledge), a qualitative approach is more appropriate in this exploratory research. Additionally, most researchers in this area have treated customer satisfaction as a static phenomenon (Cadotte, Woodruff, and Jenkins 1987; Oliver 1980a) and some even view customer satisfaction as a unidimensional construct (Tse and Wilton 1988). These assumptions may not be true in the life insurance industry. For example, policy holders may feel "undecided" about their level of satisfaction/dissatisfaction of life insurance purchase, given its credence nature. However, these customers may be satisfied with his/her agent's regular chat, but *later* dissatisfied with the firm's ignorance of not sending useful health information. The impact of these intertwined "feelings" has not been studied in detail and is hard to decide. To quantify these feelings at this stage may lose insights of the relationships between after sale services and customer satisfaction/dissatisfaction.

Method

With qualitative methods' advantages in exploring rich and in-depth responses, this study employs in-depth interviews to investigate patterns of after sale services and their relations to consumer complaint behavior. To explore after sale services in depth, questions regarding antecedents and consequences of after sale services are also addressed. The interviews were conducted mainly in Mandarin Chinese and later translated by the author appearing as excerpts in this paper. Common responses and themes are analyzed and patterns are provided for consensus as well as disconfirming opinions among informants.

Findings

In total, there are 137 in-depth interviews with life insurance policy holders in Taiwan. Among these informants, 63 are male and 74 are female. Their ages range from 20 to 57, with most between 20 and 39. Occupations of these informants include professors, engineers, students, salespersons, housewives, baby-sitters, small business owners, secretaries, accountants, agents, doctors, language teachers, photographers etc. The time span of interviews is from 30 minutes to three

hours with most interviews between 30 minutes and one hour.

The results indicate that after sale services can be classified into two categories: claim and other after sale services, and most informants care about claim more than other after sale services. However, because the probability of loss is low, most customers rely upon other after sale services to decide life insurance firms' service quality and their level of satisfaction. Other after sale services are classified into: 1. regular oral communications (face-to-face or by telephone), 2. regular publications with health information, 3. provision of new product information, 4. social feedback/responsibility, 5. pre-notice of due premium payment, 6. methods of premium payment, 7. gifts and greeting cards, 8. changes of policy contents, and 9. consumer education. These after sale services were then compared to five dimensions of service quality proposed by Parasuraman, Zeithaml, and Berry (1988, 1993): tangibles, reliability, responsiveness, assurance, and empathy. These widely accepted dimensions of service quality, however, are inconclusive in regards to after sale services examined in this study. This variation in classification may result from industrial difference (Richins 1983) or cultural difference (Hsieh and Scammon 1993; Yao 1987). After sale services appear to be associated with customers' level of satisfaction /dissatisfaction and their complaint behavior. A classification scheme of after sale services is available from the author as well as implications for management, researchers, and public policy makers².

Endnotes

1. Associate Professor, Department of Insurance, National Chengchi University, Wenshen, 11623, Taipei, Taiwan, R.O.C.
2. References available upon request.

Informal Money Management Education: Perceptions of Teens and Parents

Teens and their parents agree that informal money management education is occurring in the home. They also agree on the topics (budgeting, credit, savings, and allowances) that are being used in this process. Parents, however, listed the topics of savings nearly three times as frequently as their teens. Fewer than five parents or teens mentioned that informal money management education was occurring by parental example.

Cathy Faulcon Bowen, The Pennsylvania State University¹

Introduction/Method

National tests (Brobeck, 1991, 1993) indicate that high school and college students are not prepared to handle real life situations involving money that they will face as young adults. Also, many publications offer parents advice on ways to teach children to handle money responsibly. For this study, the qualitative responses that parents and their academically talented teens, henceforth teens, provided to questions about money management were compared. Parents were asked, "Do you think you or your spouse have helped your child learn to manage money? If so, what kinds of things have you done or do?" Teens were asked, "Do you think your parents have helped you learn to manage money? If so, what kinds of things have they done or do?"

Sixty-two teens in a convenience sample of students attending the Governor's School for the Agricultural Sciences during the Summer of 1993 and their parents were surveyed separately. All scholars responded to the questions at the beginning of a regularly scheduled class that was part of the five week program. Parents received the survey via mail. Forty-six usable surveys were returned by the parents. No follow-up of the nonresponding parents was conducted. For analysis purposes, the responses that 46 teens provided were matched and compared with those of their parents (46 parents).

Findings

The majority of the parents were in the 41-50 age range. The mean age of the teens was 16 years. Fifteen of the teens received an allowance and more than half (26) indicated they had a paid job during the school year. Except for one teen, all were from married couple families. More than half (28) of the parents indicated

that their total household income was \$45,000 or higher. Forty-four parents and 40 teens said yes to the above questions and provided explanations.

Savings was the topic most frequently mentioned by parents (22 times) followed by budgeting (13), talking to (13), allowances (8) and checking (5). The most frequently mentioned topics by teens were budgeting (8), checking (8), saving (8), and allowances (7). Only four teens indicated that they learned about money management by observing their parents and only three parents indicated they were teaching teens to manage money by setting an example. Few parents and teens (4 or less) from the same family indicated that the same topic was used to teach about money.

Implications

These findings suggests that parents may be missing everyday opportunities to teach children about managing money. Explanations provided along with the topics listed by parents suggest that parents are not involving their children in hand-on activities that are part of routine family money matters. Parents were unaware that they are teaching their children to manage money indirectly through their own behavior.

Educators who provide classes or educational programs on money management could take appropriate opportunities to gently remind parents that they are their child's first and most influential teacher for many skills, including managing money. In addition, parent could be encouraged to involve older teens in routine family financial matters such as balancing the checkbook, recording monthly expenditures for utilities, housing and food.

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1. Assistant Professor, Department of Agricultural and Extension Education, 323 Agricultural Administration, University Park, PA 16802.

Project Based Learning for Customer Service and Consumer Voice

This presentation described a course developed to expose students in consumer economics to project management. The course also was designed to acquaint students with customer service and consumer voice as the supply and demand sides of constructive dialogue.

John E. Kushman, University of Delaware¹

Motivation

Many new jobs are in economic sectors and types of firms where a career is a series of projects. An example is producer services, a sector in which firms provide specialized, typically information and technology intensive, services to producers. Examples are computer software resellers and systems consultants. New graduates from consumer economics have an advantage to the extent they have experience with and confidence in being project staff and managers. A feature of business reorganization and reengineering is a focus on product differentiation through superior customer service. Going deeper are efforts to create a customer focused culture within organizations. An important element of these new developments is capturing and cultivating consumer voice, before and after purchase. The current business environment offers unusual opportunities to polish the crown of consumer sovereignty. Programs in consumer economics, consumer affairs or consumer studies should give graduates skills to take advantage of their sovereignty and background and skills to institutionalize the importance of consumers.

The current popularity of problem based learning in universities is recognition in academia of the importance of listening to student consumers about their needs and of working in partnership with them to meet those needs. A course about consumer voice and customer service using PBL is a first-hand experience of a differentiated product. The lessons are heard, seen and experienced. A project, such as developed in this course, imbeds many learning problems in a framework for experiencing project management skills.

The Course Problem

The course, Consumer Service and Consumer Voice, confronts students with justifying, explaining, planning, developing, implementing and evaluating a

university student consumer voice system. More specific problems are (1) What does the theoretical and empirical literature suggest may constitute consumer satisfaction? (2) What types of information are available to organizations about postpurchase experiences and behaviors, and at what relative costs? (3) In general, what are potential consumer postpurchase behaviors? (4) Do companies that make a concerted effort to satisfy their customers, including redress for dissatisfied customers, get a favorable market position or differentiate their products? (5) What issues have special significance or arise especially in the context of joint seller-consumer production processes? (6) What constitutes an organization with a consumer focused culture, and how does an organization create and sustain such a culture? and (7) What part can a consumer relations contact point or consumer affairs department play in creating consumer satisfaction and making the organization successful?

Evolution of the Project

Each of these questions implies many more specific questions. The course evolves through:

- I. Background Stage: Students become more expert in general areas of consumer voice and customer service. These areas include theories of consumer satisfaction, dissatisfaction, complaining behavior, product differentiation, and optimal seller response.
- II. Market Specific Stage: Students judge what parts of the general findings are applicable to student consumer/university market interactions. For instance, the teaching/learning experience is a joint consumer/seller production process. The literature suggests joint production processes present special opportunities for consumers to affect the quality of service they receive and

- special challenges to the seller to work cooperatively with the consumer.
- III. **Implementation Stage:** Students design and implement (as feasible) processes to create an effective student consumer voice system. This stage of the project provides experience with group processes and defining and solving specific problems. It is important at this stage that the course project be meaningful and familiar to students.
 - IV. **Operations Stage:** Students operate the student consumer voice system. The course can best operate in a fictitious setting, where the flow of complaints or other consumer input can be controlled by the project manager (the professor). Course and academic year schedules do not lend themselves to responsibility for ongoing customer service operations. The course setting can be a good pilot test for a system to be adapted for commercial use, depending on the project client.
 - V. **Evaluation Stage:** Students and industry experts critique their student consumer voice system. The system should capture consumer information accurately and get it to responsible parties quickly. The system should allow management to check performance in responding to consumers and to detect problem patterns. The system also should include mechanisms for evolving as needs change.

Project Organization

The instructor serves as overall manager of the student consumer voice system project. In this role, he/she continually defines, refines, limits and restates the problems. The students organize themselves around the problems, research the issues or experiment with potential solutions, report their findings, and reorganize for subsequent project stages. The instructor/manager provides resources through reserved library books, journal excerpts, conference folios, video tapes, video field trips, and an existing computerized student consumer voice data base. The data base is deliberately deficient in design and execution. There also is a fictional context of operating and managing the data collection which is deliberately incomplete and poorly organized. Thus, the students have an example of an information collection and management tool specific to the student consumer setting, which they must improve.

Centralized Computer Database

The computerized data base uses Complaints Desk,² a software package designed for recording, organizing, tracking and evaluating customer feedback by product or service, customer, method of communication, responsible department, and other parameters. In moving from the Background Stage to the Market Specific Stage, the existing computer system provides a tangible, realistic and familiar setting for students. In moving to the Implementation, Operation and Evaluation stages, the Complaints Desk software gives a flexible framework for students to try various approaches to problems. Because the computer program and data are central to a student voice system, they provide a unifying element in the overall project. For instance, capturing student consumer voice in the computer system must be designed to facilitate redress by responsible departments and to permit oversight by management. Background issues must be brought to focus on the data input process, while operation and evaluation issues must connect to outputs from the data base.

Presentation of the System

The course culminates with presentation of the student consumer voice system to university officers who question the students and critique their product. Experience with the first offering of this course suggests that officers like the Dean of Students, Vice President for Student Life, or similar university officers have genuine interest in the project and the students. Knowing such officers will receive their product at the end of term is highly motivating for students. If the university is not an appropriate setting for a fictitious system, perhaps because a good duplicate system exists on campus, the instructor may seek a small, local firm to cooperate in testing a potential customer service system.

Endnotes

1. Professor of Consumer Economics, College of Human Resources, University of Delaware, Newark, DE 19716-3001.
2. Complaints Desk is a trademark of Spectrum Computer Technologies, Niagara Falls, New York.

Perceived Usefulness of Credit and Insolvency Measures Among Financial Planners and Educators

A Delphi study resulted in the identification and evaluation of measures for assessing exposure of consumers to insolvency and credit problems. There was agreement between the educators and planners regarding the usefulness of 23 out of 31 measures. Behavioral measures were generally perceived as more useful than financial ones, and simpler, easier-to-ascertain measures were rated as more useful than more complicated ones.

Sue Alexander Greninger, The University of Texas at Austin¹

Karrol A. Kitt, The University of Texas at Austin²

Vickie L. Hampton, The University of Texas at Austin²

Joseph A. Achacoso, The University of Texas at Austin³

One important area where financial and behavioral measures can be of use to consumer educators involves credit and insolvency. DeVaney (1994) observed that financial ratios could be more predictive of insolvency than demographic variables. Langrehr and Langrehr (1989) concluded that comparing debt to income seemed to be a good way to determine ability to handle debt but noted that consumers and creditors were inconsistent in judging credit capacities. Lytton, Garman and Porter (1991) emphasized the need for a consensus among financial experts regarding the most useful ratios. Personal finance textbooks by Garman and Fogue (1994) and Gitman and Joehnk (1993) have included both financial ratios and behavioral patterns as measures that might be useful in identifying credit overextension. Mason and Griffith (1988) pointed out the need for collaborative efforts between educators and planners by saying, "Input is needed from academicians and practitioners before competent ratio analysis can become standardized and widely used" (p.83).

Objectives and Methodology

The specific objectives of this research were (1) to identify and evaluate financial and behavioral measures for assessing exposure of consumers to insolvency and credit problems and (2) to compare the perceived usefulness of the measures among financial educators and planners. This research was a part of a larger project undertaken to identify and refine measures for determining the financial well-being of families and individuals. The project utilized a Delphi research method which was developed in the 1950s by the Rand

Corporation for defense research. A Delphi study provides a mechanism for dialogue, information exchange, and consensus development among experts dealing with multi-faceted problems. The key participants in this study were a research team, an advisory committee, and a panel of experts. The panel resulted from invitations sent to a random sample of 400 Certified Planner licensees and 340 financial educators who belonged to the Association of Financial Counseling and Planning Educators. Initially, 122 planners and 159 educators agreed to participate. In Round 1, 122 of 281 (43%) responded to an open-end questionnaire about financial well-being concepts. From the responses, two closed-end questionnaires were developed by the research team. Credit questions were included in the second half of Round 2, which had an overall response rate of 56%. The resulting panel was comprised of 64 planners and 87 educators, after financial counselors were omitted due to their small number.

The measures included in the questionnaire were 20 financial ratios and benchmarks and 16 behavioral patterns identified in the literature or by the panel of experts. All measures were rated by the respondents on a Likert-type scale where 1="absolutely useless" and 5="very useful." Frequencies were run for the total sample as well as the two subgroups. Differences between the planners and educators were assessed by t-tests.

Results

The behavioral pattern perceived as most useful by the panel of experts was "being so far behind on payments that credit collection agencies are calling,"

which received an average rating of 4.73. Five other behavioral measures were rated higher in usefulness than the most highly-rated financial measure, "time household could meet living expenses with existing reserves," which averaged 4.47. The five behavioral measures rated higher than this financial measure were: borrowing to meet normal living expenses (4.62); regularly exceeding the borrowing limits on credit cards (4.53); receiving 2nd or 3rd notices from creditors (4.53); missing payments, paying late, or paying some bills every other month (4.52); and using a cash advance on one card to pay off another debt (4.48). The ratio receiving the highest usefulness rating was total debt payments ÷ income (4.28). The only other ratios that had mean ratings over 4.00 were total expenses ÷ income (4.02) and non-mortgage debt payments ÷ income (4.01).

In general, behavioral measures were perceived as more useful by the panel of experts than financial ratios and benchmarks. The average usefulness rating was 4.23 for the behavioral patterns compared to 3.84 for the financial measures. Within the financial measures, standards or rules of thumb received higher usefulness ratings than ratios derived from either the balance sheet or cash flow statement. Educators and planners shared similar perceptions regarding usefulness on 23 or the 31 credit and insolvency measures. Educators gave significantly ($p < .01$) higher usefulness ratings than planners on two behavioral patterns: using cash advances on one card to pay off another and paying only the minimum required payment on credit cards. The following six measures were also perceived as significantly ($p < .05$) more useful by educators than planners: assets ÷ liabilities; non-mortgage debt payments ÷ income; time household could meet current debt payments with liquid assets; receiving 2nd or 3rd notices from creditors; missing payments, paying late, or paying some bills every other month; and being so far behind that collection agencies are calling. When ratings were summed to create aggregate scores for behavioral and financial measures, educators rated the usefulness of each group significantly higher ($p < .001$) than planners.

Summary and Conclusions

In summary, there was considerable agreement between educators and planners on the relative usefulness of the behavioral and financial measures included in this study. Measures perceived as more useful tended to be simpler and easier-to-ascertain than those rated as less useful. For example, liquid assets/current debt averaged 3.74 whereas time household could meet current debt with existing liquid

assets averaged 4.15. Educators generally gave higher usefulness ratings to the measures than planners. Findings from this research regarding the more useful insolvency and credit measures need to be disseminated to educators, planners, counselors and other financial service personnel. Further classification of the behavioral measures to identify those that might serve as early warning signals for future problems would be helpful. In addition, research determining the perceptions of credit counselors, loan officers, and consumers regarding the usefulness of these measure needs to be done. Finally, these measure need to be tested on at-risk populations of consumers as well as on existing data sets of larger, more broadly representative populations to determine how well they differentiate degrees of credit difficulties and predict future insolvency problems.

Acknowledgment

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Endnotes

1. Associate Professor, Department of Human Ecology, 30A Gearing Hall, Austin, TX 78712.
2. Associate Professor, Human Ecology.
3. Graduate Student, Dept of Psychology.

Spending Behavior of Families Receiving Welfare or Public Assistance, 1992-94

Welfare reform is in the offing. This paper examines the spending behavior of families receiving welfare income. Using 1992-1994 Consumer Expenditure Interview Survey data, an initial comparison is made of characteristics, expenditures, and durables between families receiving welfare income and families not receiving such income. A second comparison examines welfare families where no members work with welfare families where at least one member works.

William D. Passero, Bureau of Labor Statistics¹

Introduction

This paper examines the spending behavior of families receiving welfare income. The Quarterly Interview Survey component of the Consumer Expenditure Survey (CE) serves as the data source. Families² receiving welfare income and those not receiving such assistance are compared in terms of their demographic characteristics, the allocation of expenditures, and consumer durables they have use of. Statistical tests show that expenditure shares for most major item categories are significantly different for these groups.

Comparisons of two groups among recipient families illustrate the effects of working status on expenditures and durables. Statistically significant differences appear in comparing expenditure shares of welfare families with working members to shares of welfare families with no working members.

The data base is created from all families interviewed between January 1992 and March 1995. The interviews are split into two data sets - one containing 3,100 interviews from recipient families, the other having 64,085 interviews from nonrecipient families. Weighted annual means, expenditure shares, and percent distributions are computed for selected characteristics, expenditure groups, and durables for the two samples. T-tests on expenditure shares ascertain whether the spending patterns of the groups are significantly different.

Methodology

In this section, welfare income is defined and the CE Interview survey is described. The reference period of families in this study is outlined, and the variables in the research data base are enumerated broadly.

Samples

The CE data base contains variables identifying families that receive welfare income. Welfare is defined to include AFDC, job training grants, such as Job Corps, and other less prevalent sources of broad and targeted assistance. Families indicating they had received welfare income during the 12 months prior to the interview comprise the data set of welfare income recipients for this paper.

Five other sources of public assistance from the Interview survey are included to provide a more complete picture of the assistance welfare families receive. These sources are: Supplemental Security Income (SSI), Food Stamps, public housing, other government housing support, such as rent supplements or ownership subsidies, and Medicaid.

Data source

The Quarterly Interview Survey obtains one year's worth of data from each sample family. Each family undergoes five interviews. In the first interview, demographic data for each member, housing unit information, and inventory data on appliances and vehicles are collected. Expenditure data for the previous month are collected for bounding purposes. The remaining four interviews are conducted at three month intervals, wherein families report expenditures made over that period. At the second and fifth interviews, data on sources and levels of income are collected for members and the family for the 12 months prior to the interview. Overall, about 90 to 95 percent of all expenditures are covered by the Interview survey instrument.³

Families are interviewed using a rotational sampling procedure. About 20 percent of the sample is replaced every quarter as families completing their participation are replaced by new families.

Reference period

Data from interviews completed from January 1992 through March 1995, covering calendar years 1992 to 1994, are analyzed. Expenditures reported over the 1992-94 period do not manifest significant shifts in spending behavior that would render combining data from the three years suspect.

Variables

Demographic variables include age, race, sex, and education of the reference person; number of persons in the family, children under 18, earners, and owned vehicles; housing tenure; family and worker composition; and types of assistance received. These variables reflect the family characteristics at the time of each interview.

Twenty-four expenditure variables are created including total expenditures, food, housing, apparel, transportation, health care, entertainment, and personal insurance and pensions. The remaining categories of spending are combined into "All other expenses". Expenditure variables aggregate all component purchases made during the reference period. They are multiplied by four for annualization prior to computation of means.

Consumer durables variables are created from the inventory of major household appliances collected during the first interview in which a family participates⁴. These variables are: stove, microwave oven, refrigerator, home freezer, dishwasher, clothes washer, clothes dryer, garbage disposal, color television, home computer, sound equipment, and video equipment. This inventory is not updated during subsequent interviews.

Each interview is treated as an independent observation. Each family in the sample is assigned a population weight which can change between interviews, depending on the characteristics of other families interviewed. Means and percent distributions are computed using these weights.

Statistical comparisons

To examine the spending behavior and socioeconomic characteristics of sample families, annual weighted means are generated for relevant categories. Since mean estimates hide variations in the allocation of the expenditure dollar by groups due to differences in spending levels, they have been converted to shares of total spending. T-statistics determine if the shares allocated to each category are significantly different.

Families receiving welfare income vs. families not receiving welfare income

Families receiving welfare income were larger and had more children than families not receiving welfare. (See Table 1.) The reference person in recipient families was significantly younger than in nonrecipient families. AFDC is a major form of welfare income, directed to families with children, who are younger than the average family. Many recipient families had working members and owned a vehicle though not as many of each as nonrecipient families.

Table 1
Selected family characteristics by receipt of welfare income, 1992-94

	Family receives welfare	Family receives no welfare
Age of reference person	37.5	48.2
Number of:		
Persons	3.7	2.5
Children under 18	1.9	0.6
Vehicles	0.8	2.0
Earners	0.8	1.3
Percent:		
Under 65	95	78
Black	35	10
Renter	77	33
Husband-wife families	26	54
Single parent, at least one child under 18	44	5
Single person	7	30
All other families	22	11

Over three-fourths of the recipient families rented their living quarters, while homeownership was the norm for nonrecipient families - only one-third were renters. An elderly reference person among recipient families was rare, as 95 percent were under age 65. This was true for just over three in four nonrecipient families. Thirty-five percent of recipient families had a black reference person, versus 10 percent in nonrecipient families. Single-parent families made up over two-fifths of the recipient sample, while about 26 percent were husband-wife families. Single person units were relatively infrequent recipients at only 7 percent. In contrast, husband-wife families made up the majority of nonrecipient families. About 3 in 10 were single person families, while just five percent were single-parent families.

Recipient families typically received one or more other sources of assistance. (See Table 2.) Food Stamps and Medicaid were common benefits received by

Table 2
Percent distribution of other assistance received by families receiving welfare income, 1992-94

Welfare with:	
Food Stamps and Medicaid	34.9%
Food Stamps, Medicaid and other government housing support	11.4
Food Stamps, Medicaid, and SSI	7.6
Food Stamps, Medicaid, and public housing	7.1
Medicaid	7.1
Food Stamps	6.9
All other combinations	13.3
Welfare only	11.7

recipients. Almost 35 percent received these three benefits together. Another 26 percent received them along with SSI, public housing, or other government housing support. Welfare with either Food Stamps or Medicaid alone were obtained by 14 percent. Welfare with any other combination of assistance was the mix for another 13 percent. Only 12 percent received welfare income only.

Table 3
Shares of average annual expenditures by receipt of welfare, 1992-94

	Family receives welfare	Family receives no welfare
Total expenditures	\$15,165	\$29,940
Housing	38.2	30.8
Food	24.7	14.9
Transportation	13.4	18.8
Apparel	5.7	4.6
Personal insurance and pensions	4.2	10.0
Entertainment	4.1	5.1
Health care	2.4	5.6
All other expenses	7.3	10.3

Recipient families spent \$15,165 on average during 1992-94, about one half the \$29,940 average for nonrecipient families. (See Table 3.) Among all major item categories, t-statistics show the share differences are

statistically significant at the 99-percent level. Over three-fifths of total spending for recipient families was allocated to food and housing. Transportation took the next largest share at about 13 percent. Under six percent went for apparel, while entertainment and personal insurance and pensions each made up four percent of spending. Health care accounted for over two percent, while the remainder went to all other expenses.

Housing and transportation accounted for about 50 percent of total spending among nonrecipient families. Food was relegated to third place at 15 percent. Ten percent of spending was directed to personal insurance and pensions. Expenditure shares for health care, entertainment, and apparel varied by about one percentage point and accounted for over 15 percent of spending. All other expenses accounted for the final 10 percent.

Table 4
Percent of families having exclusive use of selected durables by receipt of welfare, 1992-94

	Family receives welfare	Family receives no welfare
Stove	95.7%	97.7%
Refrigerator	94.0	95.0
Color television	90.8	92.9
Video equipment	54.0	70.5
Microwave oven	53.2	77.6
Clothes washer	50.4	73.3
Sound equipment	47.4	57.5
Clothes dryer	35.5	67.8
Garbage disposal	18.9	36.6
Dishwasher	18.0	49.1
Home freezer	16.6	31.8
Home computer	6.5	21.2

Except for the most prevalent household appliances, the percentage of recipient families having each consumer durable was smaller than the corresponding percentage of nonrecipient families. The size of the difference varied. (See Table 4.)

Most U. S. families had refrigerators, color televisions, and stoves regardless of whether they were recipient or nonrecipient families. Slightly more than half of all recipient families reported having a microwave oven, clothes washer, or video equipment, while just under one-half had sound equipment. These rates were two-third to four-fifths the rates for nonrecipient families.

Approximately one-third of recipient families had a clothes dryer, while about one-sixth had a dishwasher, garbage disposal, or home freezer. These rates were just over half the rates for nonrecipient families except for dishwashers where the rate was slightly over one third. A home computer was least likely to be found in either group. Just one in five nonrecipient families and one in 16 recipient families logged on to their own computer.

Recipient families with working members vs. recipient families with no working members

How do the 'working' poor stack up against the 'nonworking' poor? Focusing solely on recipient families, expenditures, demographic characteristics, and consumer durables of families which have no working members are compared with families with working members. Only families with a reference person under 65 are included since they are more likely to have members eligible for the workforce.

The definition of a "working" member of a family is similar to the BLS definition of the "working poor". A member over 15 years old who has been employed full- or part-time for at least 27 weeks over the past 12 months is "working", regardless of whether pay is received.⁵

Table 5
Selected characteristics for recipient families with reference person under 65 by presence of working members, 1992-94

	Has no working members	Has working members
Age of reference person	34.2	37.4
Number of:		
Persons	3.5	4.2
Children under 18	2.1	1.9
Vehicles	0.5	1.5
Earners	0.3	1.6
Percent:		
Female	81	53
Black	42	25
Renter	85	69
Husband-wife families	15	44
Single parent, at least one child under 18	63	19
Single person	8	4
All other families	14	33

Data collected in 1,773 interviews from nonworking families and 1,158 interviews from working families are analyzed. The reference person in nonworking families was slightly younger than the reference person in working families. (See Table 5.) Working families were larger; however, the average number of children in the nonworking group was

Table 6
Percent distribution of other assistance received by recipient families with reference person under 65 by presence of working members, 1992-94

	Has no working members	Has working members
Welfare with:		
Food Stamps and Medicaid	37.5%	34.0%
Food Stamps, Medicaid, and other government housing support	15.3	6.1
Food Stamps, Medicaid, and public housing	10.0	3.1
Food Stamps, Medicaid, and SSI	8.7	4.0
Food Stamps only	6.7	7.6
Medicaid only	4.6	10.9
All other combinations	13.6	10.7
Welfare only	3.6	23.6

somewhat higher. It is striking that so many working families had more than one earner.⁶ A female reference person was the rule, dominating the nonworking group and mustering a slight majority among working families. The ratio of nonblack to black reference persons was about 3 to 2 in the nonworking group and 3 to 1 in the working group. Renting was common in both groups, though almost 3 in 10 working families were homeowners.

The preponderance of female heads among nonworking families is evident as almost two-thirds were single parent with at least one child under 18. (In over 95 percent of these families, the parent was female.) Only 15 percent contained a husband and wife. Working families displayed more variety. Over two-fifths were husband-wife families. Single parent families with at least one child under 18 represented another one fifth.

Over one third of the families in both groups received Food stamps and Medicaid along with welfare income. (See Table 6.) With that exception, the most frequent combinations of added assistance each group

got differed significantly. Over 25 percent of nonworking families obtained some kind of housing support with Food Stamps and Medicaid. About 9 percent of nonworking families received SSI with Food Stamps and Medicaid, to rank fourth most frequent. Under four percent received welfare only.

Apart from the welfare-Food Stamps-Medicaid combination, the largest portion of working families - just under one-fourth - received no other aid. About one in nine got Medicaid only as additional assistance, while nearly eight percent obtained Food Stamps as their sole outside aid.

Table 7
Shares of average annual expenditures for recipient families with reference person under 65 by presence of working members, 1992-94

	Has no working members	Has working members
Total expenditures	\$11,528	\$21,288
Housing**	43.1	33.8
Food**	30.0	20.1
Transportation**	9.1	17.6
Apparel*	6.3	5.3
Entertainment	3.7	5.1
Personal insurance and pensions**	1.0	7.1
Health care**	0.9	3.0
All other expenses**	5.9	8.7

*Share difference is significant at 95 percent level.

**Share difference is significant at 99 percent level.

The impact of working members is seen in the fact that working families reported average total expenditures almost 85 percent higher than nonworking families. (See Table 7.) The allocation of the expenditure dollar also differed in statistically significant ways between groups. The nonworking group, with lower overall expenditures, apportioned a greater share to necessities - 43 percent to housing and 30 percent to food - than its working counterpart. Working families spent only 20 cents of every expenditure dollar on food and about 34 cents on housing. Able to accommodate their food and housing needs with a smaller share of total spending, working families apportioned a larger share to transportation. T-statistics for the food, housing, and

transportation share differences were significant at the 99-percent level.

Personal insurance and pensions occupied a minor share among expenditures of the nonworking group. Working families, by contrast, allocated a share over seven times larger. The difference in share was driven by payroll deductions for Social Security and pension plan contributions incurred by employed members of working families.

Health care made up a significantly higher share of total spending for working families than for nonworking families, though for both groups, their shares were lower than for nonrecipient families. Medicaid was frequently received in each group accounting for these share differences.

A smaller percentage of nonworking families had use of most durable items than working families. (See Table 8.) As with recipients and nonrecipients of welfare, most families in either group had ovens, refrigerators, and color televisions. Note the working group rate for these items was higher than the rate for nonrecipients of welfare. About 20 percent of the families in each group had garbage disposals. Both groups were primarily renters, so that, along with refrigerators and stoves, disposals probably were part of their rental units.

Table 8
Percent of recipient families with reference person under 65 having exclusive use of selected durables by presence of working members, 1992-94

	Has no working members	Has working members
Stove	94.1%	97.8%
Refrigerator	92.3	96.2
Color television	88.4	94.7
Video equipment	47.9	64.8
Microwave oven	44.3	67.1
Sound equipment	43.7	56.2
Clothes washer	41.6	64.0
Clothes dryer	27.0	49.1
Garbage disposal	18.8	20.4
Home freezer	14.3	19.0
Dishwasher	14.2	24.6
Home computer	4.1	10.3

Nonworking families had sound and video equipment, and home freezers at about three-fourth the rate of working families. Working families had sound and video equipment at rates comparable to nonrecipient

families. Home freezers were relatively rare at rates of under 20 percent for both groups.

The biggest spreads between working and nonworking families appeared for microwave ovens, clothes washers, and clothes dryers where nonworking families reported rates 22 points below working families. About two-thirds of the working families had the former two items, while just under one-half had the latter.

Among the remaining durables, about one in four working and one in seven nonworking families had a dishwasher. Home computers were scarce with barely one in ten families in the working group and one in 25 in the nonworking group reporting a home computer.

Conclusions and future work

Families receiving welfare income were younger, larger, with more children, but fewer earners than families not receiving welfare income. They were likely to be renters, and were more frequently single-parent families. Recipient families reported average expenditures about half as large as nonrecipient families. Not surprisingly, recipient families directed a greater share of these expenditures to necessities than nonrecipient families. The latter apportioned more to transportation, personal insurance, and pensions. With the exception of three widely-owned appliances, lower percentages of recipient families had consumer durables.

Recipient families were not homogeneous as the working member analysis demonstrates. Similar in some respects, working and nonworking families varied sharply in composition. Single-parent families were the rule for nonworking families, whereas working families often were headed by a husband and wife. Nonworking families averaged just over half the total spending of working families. This lower spending dictated that nonworking families apportion almost three-fourths to food and housing, compared to just over half for working families. Working families allocated more to transportation, personal insurance, and pensions. Differences between the groups in percentage of families having selected durables essentially replicated the differences in rates between recipient and nonrecipient families.

Future research will examine which family characteristics are correlated with observed spending for major categories. Initial analysis of variance of food expenditures has yielded promising results. Further work will be undertaken in this direction.

Endnote

1. Economist, Division of Consumer Expenditure Surveys, Room 3985, 2 Massachusetts Avenue, NE, Washington, DC 20212
2. "Family" will be used instead of "consumer unit", the usual CE term, for convenience.
3. Expenditures for postage, housekeeping supplies, personal care products, and nonprescription drugs are among the items not collected in the Interview survey.
4. The questionnaire lists 15 categories. Twelve variables are created from these categories, representing the number of appliances of that type the family has.
5. The BLS definition of "working poor" includes members who sought work as well.
6. Earners are more loosely defined than "working" members. An "earner" is over 14 years old and has worked any number of weeks, for pay, over the past 12 months.

The Changing Food at Home Budget: 1980 and 1992 Compared.

Numerous new links between diet and health have been established and publicized recently. When analyzed using both a share index and logistic regression, data from the Consumer Expenditure Survey indicate that patterns for food at home expenditures change from 1980 to 1992 for several demographic groups. Although most changes are in more healthful directions, a few in less healthful directions are also found.

Geoffrey Paulin, Bureau of Labor Statistics¹

NOTE: All material contained herein is solely the responsibility of the author. Any opinions expressed in this paper are those of the author and do not constitute policy of the Bureau of Labor Statistics. This paper is substantially abridged. For a complete copy contact the author.

Introduction

In the 1960's, it was wheat germ and yoga. In the 1970's, it was granola and jogging. In the 1980's, it was oat bran and aerobics. It seems that every decade has had its own prescription for good health, and the 1990's are no exception. The news continually reports findings from medical studies that link foods with health conditions, either good or bad. But are consumers following this advice? Examined here are data from the Diary portion of the 1980 and 1992 Consumer Expenditure Survey (CE), and newly published results from the Diet and Health Knowledge Survey (DHKS).

The Data

CE data

The Diary component of the CE is comprised of reports from more than 5,000 consumer units² annually. Participating families receive a diary for two consecutive one-week periods in which they record expenditures for many different items. Purchases of food for home consumption are documented in great detail. In 1980, a total of 10,433 diaries are available for study; in 1992, a total of 11,713 diaries are available. All observations are treated independently. Results in Table 1 are weighted to reflect the population.

Report on Nutrition Attitudes

Between April 1989 and May 1992, the U.S. Department of Agriculture conducted for the first time

the Diet and Health Knowledge Survey (DHKS). In the survey interviews main meal planners and preparers in U.S. households are asked specific questions to find out their knowledge and attitudes about dietary issues: For example, "In your opinion, should your diet be lower or higher in saturated fat or is it just about right compared with what is most healthful?" (p. 22)

Shares analysis

The Share index

Because the Diary survey does not collect quantities of food purchased--only the level of expenditure is available--alternative methods must be used to ascertain whether food purchasing habits have changed over time. One way is to examine how the total food budget is allocated. Although a t-test on the shares³ might seem appropriate at first, the t-test does not conclusively indicate that food purchases are changing. For example, if the price of butter doubles, and the average family purchases half the quantity as a result, then the share of the food budget spent on butter does not change, assuming there are no changes in other food prices or quantities purchased. A share index is used to compare shares after adjustment with the Consumer Price Index (CPI). If the share of total food expenditures for a particular food item in 1992 is different from the share found in 1980, and if that share difference cannot be accounted for by price changes alone, then relative to total food purchased, the amount of the specific food item purchased must have changed over time.

The computation of the share index is straightforward. Table 1 shows that meat, poultry, fish, and eggs account for 34.4 percent of total food at home expenditures in 1980. That figure drops to 26.4 percent in 1992. During that time the price of meat, poultry, fish, and eggs rises 42.3 percent, compared to 54.8 percent for all food at home. If the quantities purchased

Table 1
Changes in Food Purchases, All Consumer Units, 1980 and 1992.

Item	All Consumer Units		Percent Change in CPI: 1980-92	Share Index
	1980	1992		
Consumer Units ('000s)	85,188	100,082	N/A	N/A
Income before taxes ^a	\$17,985	\$33,407	N/A	N/A
Family size	2.7	2.5	N/A	N/A
Age of reference person	46.1	47.4	N/A	N/A
Number in consumer unit:				
Persons under 18	0.8	0.7	N/A	N/A
Earners	1.4	1.4	N/A	N/A
Average weekly expenditures for:				
Food at home	\$33.22	\$49.99	N/A	N/A
Cereal and Bakery	4.27	7.90	N/A	N/A
Meat/Poultry/Fish/Eggs	11.43	13.22	N/A	N/A
Dairy Products	4.47	5.80	N/A	N/A
Fruits and Vegetables	4.92	8.24	N/A	N/A
Other food at Home	8.11	14.84	N/A	N/A
Share of Food at home:				
Food at home	100.0%	100.0%	54.8%	N/A
Cereal and Bakery	12.9	15.8*	80.6	1.05
Cereal/Cereal Products	4.2	5.4*	82.1	1.09
Bakery Products	8.7	10.4*	79.5	1.03
Meat/Poultry/Fish/Eggs	34.4	26.4*	42.3	0.83
Beef	13.2	8.1*	34.5	0.71
Pork	7.3	6.0*	56.0	0.82
Other Meats	4.6	3.6*	41.3	0.86
Poultry	4.5	4.7	40.2	1.15
Fish and Seafood	2.8	2.9	73.4	0.92
Eggs	1.9	1.1*	22.2	0.73
Dairy Products	13.5	11.6*	41.4	0.94
Fresh Milk and Cream	7.1	5.1*	36.4	0.82
Other Dairy Products	6.4	6.5	48.3	1.06
Fruits and Vegetables	14.8	16.5	89.3	0.91
Fresh Fruits	4.3	4.9*	117.2	0.81
Fresh Vegetables	4.2	4.9*	99.9	0.90
Processed Fruits	3.5	3.9*	67.7	1.03
Processed Vegetables	2.8	2.9	55.0	1.03
Other Food at Home	24.4	29.7*	43.9	1.31
Sugar and Other Sweets	3.6	3.9*	47.1	1.14
Fats and Oils	2.9	2.8	45.4	1.03
Miscellaneous Foods	8.8	14.8*	67.6	1.55
Nonalcoholic Beverages	9.2	8.2*	25.1	1.10

^a Complete income reporters only.

* Change in shares is statistically significant at the 95 percent confidence level.

of meat, poultry, fish, and eggs and of total food at home remain constant, then the share in 1992 should be about 92 percent its level in 1980 ($1.423/1.548 = 0.919$). So if quantities remain unchanged, meat, poultry, fish and eggs should account for about 31.6 percent of the food budget in 1992. Because they only account for 26.4 percent, the quantity of meat, poultry, fish, and eggs purchased declines relative to total food purchases. In fact, the share (26.4 percent) is only about 83 percent of its expected value (31.6 percent); hence, the share index is shown as 0.83, or $26.4/31.6$.

The share index is easy to interpret. The level of the index minus one shows by what percent the specific quantity has changed relative to all food. Thus, the food group consisting of meat, poultry, fish, and eggs comprises about 17 percent less of total food in 1992 than it does in 1980 (Table 1).

For ease in analysis, terms relating to food "purchases" and "consumption" are used interchangeably hereafter.

Overview

The share index for cereal and bakery products and for other food at home indicates an increase in relative purchases of these products, while for all other food items (meat, poultry, fish, and eggs; dairy products; and fruits and vegetables) the index indicates a relative drop in purchases. The index for other food at home seems to derive its large magnitude from strong increases in miscellaneous foods, probably because miscellaneous foods includes frozen meals, which proliferate in the 1980's. The share of the food budget allocated for eggs is almost cut in half between 1980 and 1992. This is consistent with results from the Department of Agriculture (Putnam and Allshouse 1993, p. 37).

Although most of these changes are in more healthful directions, consumption patterns in two food groups decline unexpectedly. After a period of stability (1980-90), the percentage of all families reporting fish and seafood expenditures falls from 28.2 percent in 1990 to 24.9 percent in 1992. Fish and seafood prices increased 3.4 percent, compared to 2.7 percent for beef, and decreases for pork (1.5 percent) and poultry (0.8 percent). To the extent that poultry and fish are substitutes,⁴ it makes sense that families purchase less fish and seafood and more poultry under these conditions. Other surveys also show declining purchases of fish and seafood from 1990 through 1992. (See full paper for details.)

Fruits and vegetables are more intriguing. The share indices for fresh fruits and vegetables decline, although the increase in percent reporting for all families is about 7 percent for fresh fruits and fresh vegetables

alike. Data from the Nationwide Food Consumption Survey also show a substantial decrease in average annual household food use of fresh fruits and fresh vegetables from 1977/78 to 1987/88 (Lutz et al., 1992, p. 20). How can percent reporting increase, yet amounts consumed decrease? Although more families are buying, those who do purchase are buying less on average. Evidence from the CE data shows that this is indeed what happened. Real (i.e., inflation adjusted) mean weekly expenditures for families that report fresh fruit purchases decline from \$3.35 in 1980 to \$2.29 in 1992, while fresh vegetable expenditures decrease from \$3.28 to \$2.52. The fact that percent reporting increases while average expenditures decrease for fruits and vegetables underscores the importance of using both a share index and logistic regression to get a fuller picture of how purchases are changing.

Logistic Regression Results

Logistic regression, or "logit" (Kennedy 1992), is used to estimate the probability that a particular family will purchase a certain type of food. An increase in the probability of purchase indicates that more families are purchasing the good, and is thus a good indicator of whether consumption increases due to an increase in number of families that purchase rather than an increase in number of purchases by families that already consume the food regularly.

A "control" family is one against which other families can be compared. For these purposes the control group is defined as a family: consisting of a husband, wife, and child; in the middle income group; living in an urban area; not participating in the food stamps program; participating in the Diary survey in April, May, or June; whose reference person is 35 to 64 years old, not black, and never attended college. Dummy variables and interaction terms are used to control for variation by demographic groups and across time periods.

Families that do not report purchases of groceries (about 11 percent) are omitted from the sample to avoid bias--if the family buys no groceries at all, then the probability that the family buys any specific food is zero. Also omitted are families for whom no diary placement date could be found (less than 3 percent of the total sample). The logit results are not weighted to reflect the population.

The Control Group

Changes in probability of purchase for the control group are described to give a sense of how probabilities are changing for the "average" or "typical"

Table 2: Probabilities of Purchase, 1980 and 1992:
Fish and Seafood; Eggs; Dairy Products

Logistic Regression Results:	Eggs			
	Parameter Estimates		Predicted Probability	
All Consumer Units	1980	1992	1980	1992
Control Group:	0.4102	-0.5722	60.1	46.0
Intercept ^a	0.0904	-0.9378*	60.4	46.2
Age (35 to 64)				
Under 35	-0.3154*	0.1282	52.4	41.4
65 and Over	0.2277*	-0.0944	65.4	49.3
Income (Middle Tircile)				
Lowest Tircile	-0.0482	0.0102	59.0	45.0
Highest Tircile	0.0359	-0.0622	61.0	45.3
Incompl. Reporter	-0.1587*	0.2635*	56.3	48.6
Family Composition ^b (Husband/Wife/Children)				
Single Male	-0.7515*	0.2944	35.5	25.4
Single Female	-0.0518	0.1732	34.3	27.8
Husband/Wife Only	-0.1094	0.0951	52.6	39.9
Single Parent	-0.2837*	0.2531	51.6	39.7
Other Family	-0.0753	-0.0649	58.3	42.5
Family Size (Two Adults, One Child)				
Number of Adults ^c	0.0621	0.1645*	61.6	51.6
Number of Children ^d	0.2263*	0.0335	63.3	50.4
Children Squared	-0.0307*	0.0031	N/A	N/A
Race (White and Other)				
Black	-0.0032	0.0821	60.0	47.9
Education (No college)				
Some College	-0.0302	-0.0869	59.4	43.1
College Graduate	0.0732	-0.3388*	61.9	39.5
Degree Urbanization				
Rural	-0.2426*	0.1732	54.2	44.2
Food Stamps				
Participates	0.1889*	0.0712	64.5	52.5
Month Surveyed				
Jan/Feb/March	0.0838	-0.0213	62.1	47.5
July/Aug/Sep	0.0512	0.0199	61.3	47.7
Oct/Nov/Dec	0.0836	0.0505	62.1	49.3

* indicates parameter estimate is statistically significant at the 95 percent confidence level.
 a Predicted probability is calculated for an increase of 0.01 in the intercept.
 b Predicted probability is calculated with family size taken into account. For example, a single person consumer unit consists of one adult and no children. A single parent consumer unit consists of one adult and one child.
 c Predicted probability is calculated for a husband and wife with two children, one of whom is at least 18 years old.
 d Predicted probability is calculated for a husband and wife family with two children, both of whom are under 18. Because the increase in number of children also affects number of children squared, the entire change is included here.

family (Table 2). Four food groups exhibit statistically significant decreases in probability of purchase for the control group. These are beef, pork, and other meats (5 percent); fish and seafood (6 percent); eggs (14 percent); and dairy products (4 percent). Changes in probability are not found to be statistically significant for any other food groups.

These groups contain foods which are high in saturated fat (dairy products), cholesterol (seafood),⁵ or both (eggs and beef, pork, and other meats). The DHKS shows that 54 percent of all main meal planners believe their diets should be lower in fat, and this may be one reason for the decreased probabilities of purchase. When compared to saturated fat specifically, only 44 percent think their diet should be lower, compared to 48 percent who think it is about right. Similarly, when asked about cholesterol, only 41 percent think their diet should be lower, compared to 53 percent who think it is about right. (USDA 1996, pp. 21-23.)

Income Elasticities

An increase in income elasticity indicates that it takes less of an increase in income to induce a purchase of a given item than it did before. Income elasticity can be estimated using regression results. However, before regressions can be performed, several factors must be taken into account.

First, both expenditures and incomes are adjusted for inflation before regressing. To achieve this, each individual expenditure is divided by the level of the CPI for that item in the appropriate year, with the resulting real expenditures aggregated to the food group level. Income is divided by the CPI for all goods and services.

Second, a regression method must be selected. The method used in this case is the Heckman two-stage procedure (Heckman 1979).

Third, the income data in the second stage are subjected to a Box-Cox transformation (Box and Cox 1964) to correct for heteroscedasticity. Therefore, instead of regressing expenditures directly on income in the second stage, expenditures are regressed on the fourth-root of income.

Fourth, the sample is limited to complete income reporters⁶ before first or second stage regressions are run.

The Models

The Probit model (results not shown) is identical to the Logit model described earlier; the second stage model differs only slightly. First, instead of a dichotomous dependent variable, the second stage uses

a continuous dependent variable (i.e., actual level of expenditures for the food group under study.) Second, a continuous income variable is used (after being transformed as described above). Interaction terms are used to find whether income elasticities change over time.

Estimating Income Elasticity

The formula for income elasticity (often symbolized by η) is:

$$\eta = (0.25bI^{0.25})/Y$$

Results

In Table 3 real expenditures and real incomes are averaged for each group across time before use in the income elasticity equations. In this way, differences in elasticity are due solely to differences in the income parameter estimates.

The parameter estimates are accompanied by footnotes designating statistical significance. Parameter estimates are considered to be statistically significant based on standard t-test results. Statistical significance indicates the parameter estimate is significantly different from zero.

Elasticities are analyzed for statistical significance in a different way. Part of the elasticity equation (b) is calculated by adding parameters appropriately, regardless of statistical significance. Elasticities in 1980 are considered to be statistically significantly different from zero if the sum of the 1980 parameter estimates is non-zero according to an F-test. Elasticities in 1992 are analyzed to see if they are statistically significantly different from the 1980 elasticities, rather than from zero.

General observations

As expected, the individual food categories are income inelastic in each year. Even so, the food categories can be placed into three distinct groups: those for which elasticities increase over time for most groups (cereal and bakery products, fish and seafood, and other food at home); those for which elasticities are positive in 1980 for most groups, and do not change over time (beef, pork and other meats, dairy products, and fruits and vegetables); and those for which elasticities are statistically indistinguishable from zero, regardless of year (poultry, eggs, and fats and oils). Although some predicted elasticities are negative (indicating "inferior" goods), they are not statistically distinguishable from zero.

Conclusions

CE data are analyzed from three different aspects (price-adjusted budget shares; probability of purchase; income elasticities) to see if food expenditure patterns have changed from 1980 to 1992. Some changes have occurred for the better. For example, it appears that consumers are reducing consumption of eggs. On the other hand, consumption of fruits and vegetables has also declined, although frequency of purchase has increased for most groups. Some foods have become more responsive to changes in income, although others generally show stable elasticities across years.

Taken together, these findings indicate that consumers are reacting to the ever-changing news about relationships of food to health, though some groups respond differently than others. Future work analyzing trends by demographic groups should provide further insight into changing patterns.

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Endnotes

1. Economist, Division of Consumer Expenditure Surveys, 2 Massachusetts Avenue NE #3985, Washington DC, 20212.
2. Consumer unit: a single person living alone or sharing a household with others but who is financially independent; members of a household related by blood, marriage, adoption, or other legal arrangement; or two or more persons living together who share responsibility for at least two of three major types of expenses--food, housing, and other expenses. For convenience, "consumer unit" and "family" are used interchangeably in the text.
3. See Paulin (1990) for formula.
4. Lee (1992) finds that poultry and seafood are substitutes (p. 275), with a cross-price elasticity of 0.36 (p. 278).
5. According to Pennington and Church (1985) a large boiled egg contains 274 milligrams (mg) of cholesterol (p. 52). This compares to 3½ ounce servings of canned oysters (230 mg, p.68), lobster (200 mg, p. 67), and shrimp (150 mg, p. 70).
6. The family must report at least one major source of income. However, even complete reporters may not provide a full accounting of income for all levels and sources.

Spending Patterns of Generation X

No singular name or phrase accurately describes 18 to 28 year olds in 1994 -- thus they are called Generation X. The demographic characteristics and spending patterns of this age group are compared between 1980 and 1994. Then, using a standardization technique, 1980 characteristics for 18-28 year olds are used to 'weight' 1994 expenditures for the 18-28 age group. These standardized expenditures are compared to Generation X's actual expenditures in 1994.

Brian C. Riordon, Bureau of Labor Statistics, Consumer Expenditure Survey¹

Demographers identify six different population groups in the U. S. today. One of these is cryptically described as "Generation X". This group is considered to have a generally dour view of current life with low expectations for the future. Such an outlook would be expected to have implications for their behavior as consumers. This paper analyzes how the socioeconomic and demographic characteristics of Generation X are related to its spending patterns.

The word "generation" in the name "Generation X" is actually a misnomer, in that what is really being referred to is a cohort. A generation is defined by dates of birth. A cohort is defined by important events or experiences that take place in individuals' formative years. Members of a cohort share a similar "coming of age" (Meredith & Schewe, 1994) period in their lives. Their tastes from the music they enjoy to family values are in large part shaped by this "coming of age" period. Wars, social movements, or the economic situation during these years also shapes their lives. As an example of the difference between a generation and a cohort, we would call those people *born* during World War II the "World War II Generation." We call those that *matured* during World War II the "World War II Cohort."

Research by psychologists and cultural anthropologists have resulted in characterizing Generation X in four segments. They are described in Chart 1 (Rice, 1995).

Various studies delimit Generation X differently by age (Rice, 1995). Some include 30 year olds as the oldest members of this cohort; some have a younger upper boundary. The lower boundary also fluctuates. Although most studies include 18 year olds in Generation X, one can not be certain that these younger people in the cohort are not the beginning of a new cohort in the population (conversely, Generation X may end up including people who are only 8 years old today.) Only in hindsight will the boundaries become clearer. The lack of a true defining moment results in a cohort that is defined by segments and is hard to delimit. No single name or phrase can reflect this population conclusively - hence Generation X. For this paper's purposes, Generation X includes consumer units in which the reference person is between ages 18-28 in 1994, or those born between 1966-1976².

The structure of this paper is as follows. Generation X's characteristics in 1994 are compared to the same age group in 1980. The characteristics examined include family composition and education

Chart 1

Description of segments comprising Generation X

Cynical disdainers	Pessimistic and skeptical, this segment receives most of the press attention;
Traditional materialists	Most like baby boomers; positive, optimistic, striving for the American dream;
Hippies revisited	Replay the lifestyle and values of the Sixties and express themselves through music, fashion, and spirituality;
Fifties machos	Conservatives who believe in stereotyped gender roles and are the least accepting of multiculturalism.

level of the reference person. Then, using a standardization technique, the 1980 distributions of these characteristics for the age 18-28 group are used to 'weight' the 1994 expenditures for the same age group. Generation X's actual expenditures in 1994 are then compared to these standardized expenditures. The point of this exercise is to see how comparable are the 18-28 age group's spending patterns in 1994 and 1980.

The Consumer Expenditure Survey

The Consumer Expenditure (CE) Survey collects U.S. consumer unit expenditure and income data by socioeconomic and demographic characteristics. Data are collected by both a quarterly Interview panel survey and a Diary or record keeping survey. The data used in this analysis are from the Interview component. The Interview Survey collects data quarterly from about 5,000 consumer units (CU)³. The samples for the Consumer Expenditure Survey are national probability samples of households designed to be representative of the total U.S. population. The ability to relate expenditure data to specific groups is what makes the CE survey a strong tool in a cohort analysis.

Whether a CU belongs to Generation X (ages 18-28) is determined by the age of the reference person. The reference person is the first person mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents this home." It is with respect to this person that the relationship of the other consumer unit members is determined. The reference person also defines the characteristics of the consumer unit (e.g. age, occupation, race, education for tabulation and analytical purposes).

Generation X in 1994 compared to 18-28 year olds in 1980

Generation X represents 13.6 percent of 1994 consumer units with a reference person over the age of 18, down from 20.2 percent in 1980. The seemingly small relative size of this cohort in proportion to the total adult population reflects an aging U.S. population, particularly of the Baby Boomer cohorts. The average income of a Generation X headed consumer unit in 1994 was \$19,567. Their aggregate income represented 8.1 percent of total aggregate income.

Roughly 60 percent of Generation X consumer units completed some college or are college graduates. It is difficult to determine the final status of this cohort's education level since many are still in what are generally considered their college years (ages 18-21).

Nonetheless, a large percentage of this cohort has had at least some college. The percentages for categories above high school graduates will likely increase as this cohort moves out of typical school attending ages. Compared to 1980, a larger percent of Generation X completed at least some college. Although a larger percentage of Generation X'ers have finished 4 years of college, there was a larger percentage of the corresponding age group that continued education past college in 1980.

Table 1.
Distribution of age group 18-28 by education level, 1980 and 1994

<i>Education Level</i>	<i>1994</i>	<i>1980</i>
Elementary/never attended	2.6	1.7
Less than High School	11.6	12.1
High school	27.3	32.2
Less than 4 years college.	38.8	36.0
College, 4 years	13.0	9.7
More than 4 years college	6.7	8.3

A second important characteristic with implications on how consumers spend their money is family type. Obviously a family with children will spend money on items such as baby products, childrens' apparel, or toys. Over 40 percent of Generation X CUs live in single person CUs, while 32 percent of this cohort are married. About 27 percent of Generation X families have children, of which one third or 9 percent of the total are single parents. About 20 percent of the cohort are classified as other type of families.

Table 2.
Distribution of age group 18-28 by family type, 1980 and 1994

<i>Family Type</i>	<i>1994</i>	<i>1980</i>
Husband and wife	11.7	16.1
Husband and wife with children under age 6	13.6	17.8
Husband and wife with children age 6 or older	4.8	5.3
All Other		
Husband and wife	2.3	1.9
Single parent	9.0	6.5
Single	41.1	42.0
Others	17.5	10.6

In 1980, about the same percent of 18-28 year olds were single (41 percent) but there were more married couples (40 percent vs. 32 percent) compared to 1994. Thus, it appears that Generation X may be marrying later, if at all. On the other hand, only about 30 percent of 18-28 year olds in 1980 had children. So

although Generation X is less likely to be married than their 1980 counterparts, they are only slightly less likely to have children. The increase in the number of single parent families from 6.5 percent in 1980 to 9 percent in 1994 may account for this.

Standardization Technique

This paper uses a standardization technique previously used by the Bureau of Census to measure the quantitative effects that a change in households' demographic, social, and economic characteristics has on income and poverty levels and income inequality. For our purpose, this same technique can be used to answer "What would happen to 18-28 year olds' spending pattern in 1994 if consumer units had the same set of demographic, social, and economic characteristics that existed for the 18-28 year olds of 1980?" This model will use family type and education level to represent the social, demographic, and economic characteristics.

Mean consumer unit expenditures in 1994 are defined as a weighted average

$$E_{94} = \sum p_{i94} e_{i94} \quad (1)$$

where E_{94} is the overall mean expenditure in 1994, p_{i94} is the proportional weight of the i th group in 1994, and e_{i94} is the mean expenditure for the i th group in 1994. The standardized mean expenditure is represented by

$$E_{94} = \sum p_{i80} e_{i94} \quad (2)$$

where p_{i80} is the i th group's proportion of all households in 1980. An equivalent way to write this equation is

$$E_{94} = E_{80} + \sum p_{i80} D e_i \quad (3)$$

where E_{80} is the overall mean expenditure in 1980 and $D e_i$ is the change in mean expenditure for the i th group between 1980 and 1994.

For this preliminary analysis, family type and education of reference person are the two characteristics in the standardized output. Since there are six different family types and six different education levels, crossing these two characteristics result in 36 different CU types. These characteristics are broken down as follows:

Family type

- Single
- Husband and wife only
- Husband and wife with children
- Other husband and wife
- Single parent
- Other families

Education of reference person

- Less than High School graduate
- High School graduate
- Some college
- Four years of college
- More than four years college (graduate)
- Other education (elementary/never attended)

The standardized expenditure values for 1994 are presented in table 4 showing what spending would look like in 1994, given the 1980 population distribution. Using these results, the spending patterns of the 18-28 age groups in 1980 and 1994 can be compared.

Average total expenditures are very close to equal between the two time periods. In 1994, Generation X spends a larger portion of total expenditures on housing, apparel, transportation and less on food, alcohol and tobacco than its 1980 counterpart. More specifically, Generation X spends about 12 percent less on total food, about 45 percent less on alcoholic beverages, and almost 50 percent less on tobacco and tobacco products, while spending close to 10 percent more on housing, 14 percent more on apparel, and about 8 percent more on transportation.

Future work will examine whether they are spending a larger share on housing and transportation because these items have become relatively more expensive and/or they are purchasing larger houses and vehicles which cost more, leaving less for other items.

The standardized 1994 average expenditures are very similar to actual 1994 averages. This shows that the 18-28 year old population of 1980 would exhibit a similar overall spending pattern to today's Generation X. If we had standardized the 1994 expenditures and found values closer to the 1980 figures, the result would support that the difference in spending was a related to characteristics changes in the 18-28 population. However this was not the case. Therefore we are uncertain about what is driving this difference. The standardization performed for this paper held more than one characteristic constant. Although it shows us what effect a changing population has on spending, it can't decipher the magnitude or direction of the effect each characteristic has individually. We could run this standardization for only one characteristic at a time to look at that effect.

Table 3.
Average expenditures for consumer units with age of reference person 18-28, 1980, 1994, and 1994 standardized using 1980 distribution of consumer units

<i>Expenditure Item</i>	<i>1980 (1994 dollars)</i>	<i>1994</i>	<i>1994 Standardized</i>
Total expenditures	21,803	21,776	21,941
Total food expenditures	3,779	3,323	3,304
Food at home	2,598	2,381	2,377
Food away from home	1,195	942	927
Alcoholic beverages	606	340	314
Housing	6,397	6,907	6,956
Apparel	1,031	1,178	1,156
Transportation	4,685	5,052	5,112
New cars and trucks	666	1,065	1,068
Used cars and trucks	1,078	1,499	1,513
Entertainment	1,073	1,146	1,146
Tobacco	421	218	221

In summary, the data show that there is a small difference between how much on average Generation X and the 18-28 year olds of 1980 spend, but there is a difference on how those expenditures are budgeted. The standardization methodology used here also shows that the difference in how Generation X'ers spend their money compared to their 1980 counterparts does not appear to be a result of a change in the characteristics of that age group. The change is rather due to changes in other factors such as the economy faced by the group or tastes and preferences. In future research, regression analysis will be employed in a methodology similar to that used in the economics of discrimination to standardize and decompose the differences in spending by factors that may be related to them (Blinder, 1971).

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Endnotes

1. Economist, Division of Consumer Expenditure Surveys, Room 3985, 2 Massachusetts Avenue, NE, Washington, DC.
2. The Consumer Expenditure Survey surveys consumer units. The sample consists of consumer units in which the reference person is age 18-28. The sample excludes those members of the 18-28 year old population that are living with parents or those 18-28 year olds that live with another person considered the reference person.
3. Consumer Unit. A consumer unit comprises either: (1) all members of a particular household related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their incomes to make joint expenditure decisions. To be considered financially independent, at least two of the three major expense categories housing, food, and other living expenses, have to be provided entirely or in part by the respondent.

Boom or Bust: An Assessment of Consumer Spending by Region, 1984-85 and 1993-94

This is an abridged version of initial work on consumer spending patterns by Census defined region and division. Geographic variations in expenditures detected by this investigation will lay the foundation for a more detailed study. The views expressed herein are those of the author and do not reflect the policies of the Bureau of Labor Statistics (BLS) or the views of other BLS staff members

Wolf D. Weber, Bureau of Labor Statistics¹

A recent article in the *Wall Street Journal* (Wysocki, 1996) began with the statement: "The past 15 years have brought a series of regional-rolling recessions: the oil-patch bust, the farm crisis, the Rust Belt woes" The author presents an argument that the economy has now become more stable and may avoid region-specific recessions. Are regional booms and busts gradually diminishing? Can a pattern of convergence in consumer spending be detected across regions? This study uses Consumer Expenditure Survey (CE) Interview data in an initial effort to answer these questions.

Preliminary results reveal that between 1984-85 and 1993-94 there is still much variation in the income and spending among Census divisions.² According to CE data, real³ average annual income⁴ increased seven percent for the U.S. while real expenditures declined slightly. Table 1 shows the percent changes in average annual total expenditures by Census division.

Table 1
Real Avg. Expenditure Changes, by Division, 1984-85 to 1993-94

Mountain + 13.3%	Pacific - 0.8%
New England + 7.8%	Middle Atlantic - 1.3%
West North Central + 2.4%	East South Central - 1.4%
South Atlantic + 1 %	East North Central - 1.8%
	West South Central - 14%

Background

After World War Two, rapid increases in economic activity took place in the southern and western regions of the U.S. The Northeast and Midwest experienced relatively small population growth as the result of net out migration, while the West and South grew rapidly due to influx from the northern regions and to natural population increases. Steadily increasing product demand allowed larger industrial entities to rapidly accumulate capital, while technology allowed

them to spatially separate their activities. Decentralization of corporate functions reinforced the migration of production operations to manufacturing centers in the "sunbelt". The U.S. economy seemed to follow the patterns of neoclassical convergence theories into the 1970's, as capital flowed into areas that provided the best returns. Differences in regional and sub-regional per capita income began to shrink as the U.S. center of population moved south and west (Malecki, 1991).

Table 2
Consumer Unit Percent Distribution, 1984-85 and 1993-94

Region	1984-85	1993-94
Northeast	21.9%	20.3%
Midwest	26.5	25.2
South	32.9	33.9
West	18.7	20.7

Table 2 shows that the changes in the distribution of the U.S. population continue to mirror those of the recent past. In order to analyze the relative spending patterns of the regions, a look at educational attainment in conjunction with expenditures is warranted.

The Data

The data presented here are from the interview portion of the Consumer Expenditure Survey. Two samples that span a time period of ten years are used in the study. Consumer units⁵ (CUs) interviewed between January 1984 and December 1985, and between January 1993 and December 1994 are included in the analysis. The CE Interview Survey collects data quarterly from about 5,000 consumer units on a rotating panel basis. Each quarter 20 percent of the sample population is dropped from the survey and a new 20 percent is added. CUs selected to participate in the survey do so for up

Table 3
Selected Characteristics by Region, Division, and for All Consumer Units, 1984-85 CE Data.

Item	All Regions	Northeast Region	New England	Middle Atlantic	Midwest Region	East North Central	West North Central
Sample size	41,405	8,728	2,512	6,216	11,030	7,287	3,836
Number of CUs (in 000's)	90,510	19,836	6,418	13,419	23,958	17,302	7,066
Age of reference person	46.7	48.2	46.8	48.9	47.3	47.0	48.1
Annual income before taxes ¹	\$24,041	\$24,578	\$23,710	\$24,973	\$23,029	\$24,416	\$20,226
Average total expenditures ¹	22,146	21,959	22,946	21,510	21,215	22,609	18,387
Percent distribution:							
Education of reference person							
Less than high school diploma	27.8	26.8	17.9	31.0	26.1	25.3	27.5
High school grad or some college	50.0	50.8	54.0	49.2	54.0	54.3	53.8
College graduate	22.2	22.5	28.1	19.8	19.9	20.4	18.7
Occupation of reference person							
Wage and Salary	66.9	64.6	67.2	63.5	65.0	66.1	63.4
Professional, managerial, supervisor	24.5	25.0	30.8	22.3	22.4	23.0	21.5
Technical, sales, clerical	14.3	13.8	12.5	14.5	13.2	13.3	13.2
Service	7.5	8.1	7.6	8.3	6.4	5.9	7.4
Blue collar and other	20.6	17.7	16.3	18.4	23.0	23.9	21.3
Self employed	6.7	5.8	6.6	5.5	7.9	7.7	8.2
Retired	16.2	19.0	19.1	19.0	16.6	15.6	18.2
Out of labor force (includes unemployed)	10.3	10.5	7.3	12.0	10.5	10.5	10.2

Table 3. (cont.)

Item	South Region	South Atlantic	ES Central	WS Central	West Region	Mountain	Pacific
Sample size	12,205	7,188	1,738	3,186	9,442	2,019	7,423
Number of CUs (in 000's)	29,779	17,011	4,945	7,412	16,937	3,950	12,987
Age of reference person	46.4	47.0	47.2	44.3	44.7	43.0	45
Annual income before taxes ¹	\$23,494	\$23,125	\$22,856	\$24,348	\$25,810	\$20,958	\$27,312
Average total expenditures ¹	21,780	21,280	20,581	23,342	24,259	20,206	25,514
Percent distribution:							
Education of reference person							
Less than high school diploma	33.3	33.4	32.8	34.3	21.7	20.8	22.0
High school grad or some college	44.8	44.0	47.5	43.7	52.7	53.9	52.3
College graduate	21.9	22.6	19.6	22.0	25.6	25.3	25.7
Occupation of reference person							
Wage and Salary	68.2	66.1	68.8	72.0	70.1	69.7	70.2
Professional, managerial, supervisor	25.2	25.5	22.7	25.7	25.6	24.7	25.9
Technical, sales, clerical	14.4	13.2	16.4	15.8	16.4	13.4	17.2
Service	7.3	8.2	7.0	5.8	8.5	10.6	7.9
Blue collar and other	21.3	19.2	22.7	24.7	19.6	21.0	19.2
Self employed	6.2	5.6	5.8	7.8	6.8	6.1	7.0
Retired	15.3	18.2	12.8	11.0	13.7	14.0	13.6
Out of labor force (includes unemployed)	10.4	10.3	12.7	9.2	9.5	10.2	9.3

Note: Numbers may not add up to 100 percent due to rounding.

¹ Complete income reporters only.

to five consecutive quarters. Data collected in each quarter are considered independent so that the estimates are not dependent on consumer units participating in the survey for all five quarters. The Interview Survey captures about 95 percent of spending by American households.

The total sample size for this study is 82,797 interviews (41,405 in the 1984-85 group and 41,392 in the 1993-94 group), which when weighted to reflect the population, represent about 90.5 million CUs in 1984-85 and about 100.8 million CUs in 1984-85. In addition to

collecting expenditure data, the CE Survey gathers information on respondent characteristics including age, education, and occupation of reference person⁶, and CU income, family composition, and region of residence. Although the four Census regions are coded, a variable that sorts CUs by the nine level Census division does not exist. In order to delineate the sample to the division level, CUs were summed by state of residence in accordance with the definitions of the nine Census divisions.

Table 4

Selected Characteristics by Region, Division, and for All Consumer Units, 1993-94 CE Data

Item	All Regions	Northeast Region	New England	Middle Atlantic	Midwest Region	East North Central	West North Central
Sample size	41,392	8,744	2,190	6,550	10,964	7,312	3,652
Number of CUs (in 000's)	100,837	20,432	5,411	15,006	25,394	17,420	7,975
Age of reference person	47.8	49.1	47.1	49.9	47.7	48.5	45.9
Annual income before taxes ¹	\$35,492	\$37,876	\$42,998	\$36,002	\$33,493	\$35,162	\$30,333
Average total expenditures ¹	30,666	31,599	34,433	30,456	28,422	29,913	25,600
Percent distribution:							
Education of reference person							
Less than high school diploma	21.4	19.6	13.8	21.7	20.5	21.1	19.4
High school grad or some college	54.9	55.8	52.3	57.0	58.3	58.0	59.1
College graduate	23.7	24.7	33.9	21.3	21.1	20.9	21.6
Occupation of reference person							
Wage and Salary	65.0	61.2	67.7	58.8	66.1	65.7	67.0
Professional, managerial, supervisor	21.7	22.0	29.4	19.4	20.5	20.6	20.4
Technical, sales, clerical	16.1	16.2	17.5	15.6	15.2	14.5	16.7
Service	8.0	8.0	6.7	8.5	7.7	7.2	8.8
Blue collar and other	19.2	15.0	14.1	15.3	22.7	23.4	21.1
Self employed	6.5	5.2	5.2	5.1	6.5	6.3	7.0
Retired	17.9	21.0	16.8	22.5	18.1	18.7	17.0
Out of labor force (includes unemployed)	10.7	12.7	10.4	13.5	9.3	9.1	9.1

Table 4 (cont.)

Item	South Region	South Atlantic	East South Central	West South Central	West Region	Mountain	Pacific
Sample size	12,479	6,467	1,682	4,334	9,205	2,397	6,808
Number of CUs (in 000's)	34,156	15,669	6,533	11,968	20,855	5,736	15,119
Age of reference person	47.7	46.5	48.8	48.5	46.7	45.3	47
Annual income before taxes ¹	\$32,802	\$36,327	\$29,669	\$29,737	\$39,565	\$36,386	\$40,786
Average total expenditures ¹	29,263	30,954	27,784	27,778	34,380	31,994	35,295
Percent distribution:							
Education of reference person							
Less than high school diploma	25.8	20.4	31.9	29.5	17.1	16.9	17.1
High school grad or some college	51.5	52.5	48.4	52.0	55.4	56.4	55.1
College graduate	22.7	27.0	19.7	18.5	27.5	26.8	27.8
Occupation of reference person							
Wage and Salary	64.9	79.4	64.9	60.9	67.0	74.1	64.4
Professional, managerial, supervisor	21.4	24.3	20.2	18.2	23.1	24.8	22.5
Technical, sales, clerical	16.0	19.2	11.7	14.4	17.3	18.8	16.7
Service	8.0	8.6	5.7	8.5	8.2	10.6	7.3
Blue collar and other	19.5	27.3	27.3	19.8	18.4	19.9	17.9
Self employed	6.2	5.0	6.6	7.4	8.3	6.4	9.0
Retired	17.4	16.1	16.4	19.6	15.3	12.9	16.2
Out of labor force (includes unemployed)	11.5	10.7	12.2	12.2	9.5	6.7	10.5

Note: Numbers may not add up to 100 percent due to rounding.

¹ Complete income reporters only.

Demographics and Characteristics

Tables 3 and 4 present selected descriptive data for the years 1984-85 and 1993-94 on the characteristics of CUs by Census region and division. The U.S. consumer unit population grew by more than 10 million over the time period. As noted previously, however, it did so asymmetrically across region and division. In general, families grew older and smaller over the ten year period. Only in the Mountain division did the

number of CU members increase, growing from 2.5 persons per unit in the earlier period to 2.8 in 1993-94. While average annual income for all divisions combined increased by over \$10,000 per CU, (48 percent), divisional increases show strong variation

Educational Distributions

The national distribution of the educational attainment of reference persons shows a slight increase in the college graduate group and a greater increase in the high school graduate-some college group from 1984-

85 to 1993-94. Regional differences are fairly pronounced with the South lagging behind in educational attainment, especially in the earlier time period. Although with about one third of the South's reference persons without a high school diploma in the 1984-85 period, its real income distribution for that period is very similar to the distribution for the other regions⁷. It appears that in the later period, education is more closely related to income. As New England increased its percent of college graduates from 28 to 34 percent, its earners in the fifth income quintile increased from about 18 to 27 percent. Only in the West South Central region was the percent of CUs with college grads lower in 1993-94 (18.5 percent) than in 1984-85 (22.0 percent). Its proportion of top quintile earners also dropped, from 21 to 16 percent.

Occupational Distributions

The greatest overall change in the occupational mix of CUs' reference persons during the period is the decrease in professional, managerial, and supervisor (white collar) positions and the increase in technical, sales, and clerical positions. During the 1993-94 period, New England's workforce had the largest percentage of professional, managerial, and supervisor positions (almost 30 percent). The most drastic decline in the white collar work force took place in the West South Central division where the proportion fell from 26 percent in 1984-85 to 18 percent in 1993-94. The proportion of the blue collar work force dropped in all divisions except the South Atlantic (up from 19 percent to 27 percent) and the East South Central (up from 23 percent to 27 percent). The rise in the proportion of the blue collar work force in these divisions may reflect the continued flow of manufacturing operations into the South.

An indication of the economic health of the divisions may be gained by looking at the proportion of CUs' reference persons that are out of the labor force. Masked behind a one-half percent increase for the nation as a whole, over the ten year period, are more volatile movements at the division level. Of the nine divisions, five experienced increases and four decreases in the percent of reference persons that are out of the work force.⁸ Some of these differences are substantial. The Mountain division showed the largest decrease, with CUs of this status falling from 10.2 percent to 6.7 percent over the ten year period, while the West South Central and New England divisions each showed increases of about 3 percent. Over one third of the reference persons in the Middle Atlantic division were either out of the labor force (13.5 percent) or retired (22.5 percent) in the 1993-94 period.

Expenditures Shares

Expenditure Categories

Table 5 shows expenditure shares that are derived from selected expenditure means. The first three expenditure categories presented in the tables are defined to contain only the "necessary" elements of food, housing, and transportation spending. The recreation and related expenditures category is compiled to include spending on items or services that may be deemed luxuries. This includes all entertainment expenditures as well as other lodging (vacation homes), transportation for trips (vacations), and food away from home (meals at restaurants). The goal of itemizing categories in this manner is to analyze consumer expenditure behavior with respect to perceived necessities and luxuries.

Expenditure Shares Analyzed

Expenditure shares greatly reduce geographical and temporal price level differences, thus affording the researcher a simple tool that can be used for comparative purposes. It generally holds true that as income or total expenditures increase, the proportion of spending on necessities falls while that for luxuries rises. With this maxim in mind, an analysis of expenditure shares follows under the general assumption that movements in a division's shares over the ten year period may indicate changes in the economic health of that division.

The expenditure shares allocated to food at home, perhaps the greatest necessity, are fairly stable across regions and divisions. The Pacific division devoted the smallest share of total spending to this category in the 1984-85 period. It also spent the smallest proportion of total expenditures on health care and the largest on recreational goods and services during this period. By 1993-94 however, the Pacific division's expenditure shares allocated to necessities rose and those devoted to luxuries declined. The Middle Atlantic division had the highest food at home shares over both time periods and by the 1993-94 period its recreation share dropped to the second smallest among divisions. Only the West South Central division spent a smaller proportion of total expenditures on recreational goods and services during the 1993-94 time period. The greatest intra-regional differences are found in the Northeast, with New England having relatively lower shares for necessities and higher shares for luxuries than the Middle Atlantic, especially by 1993-94. The expenditure share for housing in the Middle Atlantic division rose by more than five percent from 1984-85 to 1993-94. Over the ten year period, the West South Central division recorded the greatest increase in food at

Table 5
Expenditure Shares, by Region and Division 1984-85 and 1993-94 CE Data

Item	All Regions	Northeast Region	New England	Middle Atlantic	Midwest Region	East North Central	West North Central
Total expenditures 1984-85	\$21,802	\$21,253	\$21,793	\$20,994	\$21,023	\$22,309	\$18,310
Total expenditures 1993-94	\$30,068	\$30,908	\$33,836	\$29,840	\$28,228	\$29,564	\$25,312
Percent of total expenditures:							
Food at home 1984-85	10.7%	11.7%	10.9%	12.1%	10.6%	10.6%	10.8%
Food at home 1993-94	10.8	11.5	10.1	12.2	10.5	10.4	10.7
Housing (less other lodging) 1984-85	29.2	29.0	30.6	28.3	28.8	28.8	29.0
Housing (less other lodging) 1993-94	30.8	33.3	32.6	33.5	29.3	29.5	28.8
Transportation (less trips) 1984-85	19.1	17.5	18.0	17.3	19.3	18.8	20.2
Transportation (less trips) 1993-94	17.7	14.7	15.7	14.4	19.2	19.6	18.2
Apparel and services 1984-85	5.1	5.5	5.4	5.6	5.0	5.2	4.7
Apparel and services 1993-94	4.4	4.7	4.4	4.8	4.4	4.4	4.4
Health care 1984-85	4.6	4.2	4.2	4.2	4.6	4.3	5.5
Health care 1993-94	5.5	5.2	4.7	5.3	5.6	5.5	5.8
Recreation and related 1984-85	15.4	16.0	16.1	15.9	15.5	16.0	14.0
Recreation and related 1993-94	14.8	15.1	16.1	14.7	14.9	15.0	14.9
Other expenditures 1984-85	15.1	15.1	14.0	15.7	15.2	15.4	15.2
Other expenditures 1993-94	15.9	15.5	16.4	15.2	16.0	15.6	17.1

Table 5 (cont.)

Item	South Region	South Atlantic	East South Central	West South Central	West Region	Mountain	Pacific
Total expenditures 1984-85	\$21,557	\$21,131	\$20,367	\$22,944	\$23,980	\$19,948	\$25,206
Total expenditures 1993-94	\$28,524	\$30,476	\$27,176	\$26,720	\$34,012	\$31,576	\$34,936
Percent of total expenditures:							
Food at home 1984-85	10.5%	10.6%	10.7%	10.1%	10.1%	10.5%	09.9%
Food at home 1993-94	10.8	10.2	10.5	11.9	10.5	10.4	10.6
Housing (less other lodging) 1984-85	28.8	29.2	27.9	28.0	30.4	27.4	31.1
Housing (less other lodging) 1993-94	29.4	31.3	26.6	28.0	32.1	29.4	33.0
Transportation (less trips) 1984-85	20.1	20.3	20.5	19.7	18.9	21.0	18.4
Transportation (less trips) 1993-94	19.1	18.3	18.7	20.3	17.2	19.1	16.5
Apparel and services 1984-85	5.1	4.6	5.3	5.9	4.9	4.5	5.0
Apparel and services 1993-94	4.4	4.1	5.2	4.3	4.1	4.1	4.2
Health care 1984-85	5.2	5.1	5.3	5.2	4.0	4.3	3.9
Health care 1993-94	6.3	5.4	7.2	7.1	4.8	6.1	4.3
Recreation and related 1984-85	14.5	14.6	13.6	14.7	16.0	15.2	16.2
Recreation and related 1993-94	14.4	14.7	15.8	13.0	15.1	15.1	15.1
Other expenditures 1984-85	15.1	14.6	15.7	15.5	14.9	16.3	14.5
Other expenditures 1993-94	14.8	15.9	15.9	15.3	16.3	15.9	16.4

home shares (up by about 2 percent) and the largest decrease in the recreation category share (down from 16 percent to 13 percent). Health care shares increased for all divisions, but much more so for both South Central divisions and for the Mountain West.

Conclusion

This preliminary investigation of consumer unit spending by geographic region and division indicates that there are differences in spending patterns across and within regions, both in 1984-85 and in 1993-94. These differences in spending patterns did not diminish over the ten year period, but seem to have increased. As shown in Table 6, the difference in the ratio of regional average total expenditures to the national average

increased for two of the regions over the ten year period.

Changes in real average total expenditures over the period varied from negative 14 percent to positive 13 percent, while divisional differentials in expenditure shares increased slightly overall. As the gap in food at home shares across regions narrowed slightly (by 0.1 percent), the differences in recreation and related shares grew wider (from 2.6 percent to 3.1 percent). The differences in health care and housing shares also increased from the 1984-85 to 1993-94 period.

More research is required in order to specify the underlying causes of geographic differences in expenditures. The construction of divisional price deflators will help in pinning down inter-divisional spending variations. Other factors that need to be accounted for in linking expenditure patterns and

Table 6

Ratios of Regional-National Avg Total Expenditures.

	1984-84	1993-94
Northeast	0.97	0.98
Midwest	0.97	0.97
South	0.99	0.97
West	1.10	1.12

geographic divisions are local labor market conditions and consumer unit demographics and characteristics. These elements are presumed to play important roles in consumer expenditure behavior and need to be isolated and held constant in order to help classify regional differences in spending patterns.

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Endnotes

1. Economist, Division of Consumer Expenditure Surveys, Rm. 3985, Bureau of Labor Statistics, 2 Massachusetts Ave., Washington, DC 20212
2. Census Regions and Divisions are:
 Northeast:
New England-ME NH VT MA RI CT
Middle Atlantic-NY NJ PA
 Midwest:
East North Central-OH IN IL MI WI
West North Central-IL MN IA MO ND SD NE KS
 South:
South Atlantic-DE MD VA WV NC SC GA FL DC
East South Central-KY TN AL MS
West South Central-AR LA OK TX
 West:
Mountain-MT ID WY CO NM AZ UT NV
Pacific-WA OR CA AK HI
3. Income and expenditure figures that are presented in real terms have been deflated by the regional CPI-U (1982-84=100). Deflators at the intra-regional level of detail were not available, therefore all of the divisions of a region are deflated by the regional index.
4. Income data are for complete income reporters only - those respondents that provide values for at least one major source of income.

5. The basic unit of comparison for the CE. A consumer unit is defined as a single person living alone or sharing a household with others, but who is financially independent; members of a household related by blood, marriage, adoption, or other legal arrangement; or two or more persons living together who share responsibility for at least 2 out of 3 major expenses.
6. The first person mentioned when the respondent is asked to "Start with the name of the person or one of the persons who owns or rents this home."
7. Real income distributions are not presented here. They are included in the unabridged version, which is available by request.
8. Reference persons not in the labor force are defined as those that are: not able to find work (unemployed), working without pay, disabled, taking care of home family, going to school, or doing something else.

Cyberspace: The Potential for Consumers

Producers and consumers increasingly view cyberspace as a source of information, a place to advertise and/or purchase goods and services, and a means of communication. This presentation looked at some of the resources available to consumers and families in cyberspace, and the difficulty of accessing and evaluating the resources.

Constance Y. Kratzer, Virginia Polytechnic Institute and State University¹

Cyberspace is a term that currently replaces terms such as electronic super highway or information highway in the media. It is used to describe a computerized information system that can deliver limitless streams of information. The world wide computer network makes vast amounts of information accessible through the Internet or World Wide Web.

How Does the Consumer Get There?

Access to computer based information is available through commercial on-line services and through the Internet. The Internet is a world wide system linking university, government, and commercial computers. The Internet is free to individual users as it is supported by the many institutions involved (Tetzelli, 1994). Internet and commercial services differ in some types of services and information provided. There are about 2000 Web sites offering almost any product or information on any topic (Fishman, 1996). Whatever the consumer wants to know about is probably there, but how is it found? Web browsers such as Netscape help to navigate the World Wide Web. Other search tools are Yahoo, Lycos and Alta Vista (Swartz, 1996).

Who Goes There?

In 1995 about 9.5 million Americans used the Internet according to AIS (The American Internet Survey) (Find/SVP, 1995). The Internet Demographics Survey by Nielsen Media Research reported that there are about 24 million people in the U. S. and Canada cruising the net (Rothenburg, 1996). Exact numbers of users are difficult to determine as people belong to more than one on-line service and how internet user is defined can differ (Arthur, 1995). The AIS definition of an Internet user is limited to uses other than e-mail. Cyberspace users are more likely to be male (about 64%), under age 44, with incomes of \$25,000 or more. About half of

those cruising the Internet were on for first time in 1995 according to the AIS, and the average time on-line is 6.6 hours per week. Projections for 1996 are that about 15.7 million persons, or 12% of the American population will be accessing cyberspace.

What Do They Do There?

The Internet is used to communicate, shop for goods and services, and seek information. Electronic mail is used to communicate because it is less expensive than long distance phone calls, can be done at each party's convenience, provides a visual record of what is said, and offers opportunity for quick response. Listservs, bulletin boards, and discussion groups let consumers be in touch with others who share similar interests. In chat rooms, consumers can meet new people and exchange information and ideas.

Consumers also shop for goods and services. In the article 'Three Days in Cyberspace', the author recounts his assignment to interact with the outside world only by computer for three days. He found problems with getting food, grooming articles, and clothing. He could 'chat', e-mail home, and trace a Fed Ex letter (Whitford, 1995). In fact, he ended up e-mailing a friend to telephone and have a pizza delivered. The consumer can order airline tickets, send flowers, buy stocks and other financial products, mail order from Land's End, purchase computer software and hardware, shop at an on-line bookstore, or send personalized greeting cards (Guise, 1996; Kratzer & Folk, 1995). On a *trip* to The Branch Mall (<http://branch.com>) sites selling flowers, tea, t-shirts, ties, eye glasses and many other items were found. Currently there is a lack of variety of items available, but the number of sites in selected areas is increasing. In some places one can order groceries on-line, but that kind of availability is still pretty limited. Many of the items found at on-line sites were more expensive than local stores, but offered

the convenience of not having to leave home.

From the Financenter Home Page (<http://www.financenter.com/index.html>) loan rates on automobile and home purchases, and loan applications were available. Although the internet and on-line services have attracted hundreds of companies anxious to set up shop, many consumers do not yet trust the idea of ordering products and paying bills on-line. Concerns include wanting to deal with someone they know and the fear that sensitive financial information will fall into the wrong hands.

Most of the people on the Internet are not buying or selling but are trading information that's useful in their everyday lives, such as searching for old friends and relatives, organizing events, hiring employees, and swapping advice on investments (Rigdon, 1996). Educational organizations use the internet to organize classes, communicate with home bound students, and collect homework. Information on almost any topic is available from industry, government, educational sources. For instance, the Federal Trade Commission ConsumerLine (<http://www.ftc.gov/index.html>) offers full text of approximately 150 consumer and business publications on topics such as credit, investments, health and fitness, telemarketing, homes and real estate, products and services, and automobiles. Health and wellness information is available from a variety of sources such as The National Cancer Institute (<http://www.nci.nih.gov/>) and one source of nutrition information is The International Food Information Council (<http://ificinfo.health.org/homepage.htm>).

Almost anything you want is there if you can sift through the many sites to find it. It continues to be a time consuming process and the information and quality of goods and services must still be evaluated by the user. Access varies widely by locality. While in the town of Blacksburg, VA, 40% of the households are connected to the Internet, that is not the norm. It also is important to keep in mind that if 12% of the population has access, that means that 88% of the population does not have access to these resources.

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1. Assistant Professor, Department of Housing, Interior Design and Resource Management, 219 Wallace Hall, Blacksburg, VA 24061-0424.

Cyberspace: Consumer Protection Issues

Sherman Hanna, The Ohio State University¹

The explosive growth in cyberspace has led to new challenges for consumer protection. Cyberspace used mean the relatively orderly and monitored information available through online services such as CompuServe, America Online, and Prodigy. Today, however, direct access to the Internet, especially the Worldwide Web, has reduced the role of online services (Eng, 1996; Sandberg & Ziegler, 1996). With online services, there was the potential of holding the provider responsible for consumer protection problems, as one might attempt to hold a television network or magazine responsible for the deceptions of advertisers. The Internet is basically anarchy, however, with the number of web pages over 25 million, and a projected 30 million consumers having access by 1998 (Ziegler, 1996).

Commerce is growing in cyberspace, especially as methods are developed to make credit card transactions reasonably safe (Rupley, 1996). There is still some controversy about how safe transactions are (Sandberg, 1996) but the majority opinion seems to be that the major credit card companies have developed methods that are at least as safe as handing a waiter your credit card in a restaurant (Holland, 1996).

Cyberspace is such a new medium that government regulation has not kept pace with it, although there has been a start (*Salt Lake City Tribune*, 1996). In the United States the growth of cyberspace comes at a time when there are budgetary and ideological pressures to reduce government regulation. Cyberspace is also a borderless phenomena. A Commissioner of the U.S. Federal Trade Commission pointed out that "(T)echnological advances in telecommunications and finance allow scam artists in one country to communicate easily with victims in another country and to transfer their ill-gotten gains from one country to another." (Starek, 1995). It will be very difficult for governments to regulate commerce in cyberspace.

What role should the government play in consumer protection in cyberspace? Are market remedies against misrepresentation adequate (e.g., Posner, 1992, p. 110)? If consumers are informed, or if repeat sales are important, market forces may tend to correct problems for consumers. However, consumer dealings with anonymous cyberspace merchants may not

fit Posner's prescription for laissez-faire.

What are the causes of consumer protection problems. Ignorance is an obvious candidate for a source of consumer protection problems. However, if a consumer is ignorant but skeptical, damage may be limited. Various human weaknesses, including greed, desire for a cure, and lust can lead to many types of consumer protection problems.

Cyberspace offers many opportunities for investors (Hannon, 1996; Rupley, 1995) although there are still information gaps (Middleton, 1996) and outright deceptions (Weiss, 1995). One problem with investing fraud is that it might take a long time for an investor to discover that there is a problem. For investors in the United States, all of the regulations of the Securities and Exchange Commission should apply, but there is obviously a difference between trying to recover funds from your local stock broker and some cyberspace boiler room operator. The general problem predates cyberspace by many years, perhaps dating back to when long distance telephone calls became relatively cheap. Investors may ignore common sense because of their own greed to beat the market. Consumer education may provide some help. Even though there is still some controversy about the Efficient Market Theory (Malkiel, 1995), stress of that concept may inoculate some investors against either an attractive looking web page offer or a smooth talking swindler on a cold call.

There are a large number of medical web sites and Usenet groups in Cyberspace, many of which are worthwhile. However, there are also a large number of dubious web sites. For instance, one company in the Ukraine offered a magnetic device that is said to cure sexual dysfunctions and various other ills. The consumer merely needed to send \$99 by Western Union to the address listed. The advantage of cyberspace over 800 numbers for such orders is that working knowledge of written English is much wider than fluency in spoken English. Therefore, scam artists can operate from any country that has Internet connections.

Every type of pornography is available on the Web, and although there are still free samples and some offerings by amateur exhibitionists, credit card payments and international "900" numbers are the popular

methods of restricting access. There have been some problems reported with the international "900" numbers, with bills of hundreds of dollars possible for a relatively short call. Pornography in cyberspace is the ultimate form of borderless commerce. No physical shipment of goods is necessary, as even movies can be transmitted over the Internet. The potential for government sponsored consumer protection for consumers of pornography is probably very limited in any case, as many consumers would not want any publicity and would prefer to suffer in silence even if ripped off for hundreds of dollars. Credit card company offer the potential for dealing with deceptive marketing.

Government agencies obviously have a role to play, and are slowly starting to pay attention to the cyberspace phenomena (Yang, 1996). Government has only limited resources to police cyberspace. With the number of web sites approaching one million, consumer protection is very difficult. For some consumer problems in the U.S., such as product safety, civil actions, such as medical malpractice and product liability cases can help reduce the extent of consumer problems in the long run. Civil actions are not likely to be effective against the international and/or fly-by-night nature of cyberspace commerce.

Given that most cyberspace commerce is conducted through credit cards, it may be that credit card companies will provide the greatest assistance to consumers. It is no accident that Mastercard is one of the sponsors of the Web Page for the National Fraud Information Center, which solicits complaints about cyberspace fraud. If the major credit card companies would act against merchants who cheat consumers, there would be a powerful force against fraud in cyberspace.

The main way that consumers find commercial sites is through using a search engine or index. For instance, under *Yahoo!*, one can either search, or use its index of topics. One can quickly get to providers of dubious medical cures through the *Yahoo!* index. If judges found that search engines had some legal liability for fraudulent commercial services, or such liability were legislated, some consumer protection might be provided.

Cyberspace is changing so rapidly that it is difficult to project the future more than a few months in advance. International agreements are needed, and the application of existing laws against fraud to Cyberspace must be clarified. It is possible that Internet providers could be held responsible for deceptive marketing, just as the 1996 Telecommunications Act is attempting to hold them responsible for pornography. However, consumer education and private industry initiatives may provide the most protection.

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Endnotes

1. Professor, Consumer & Textile Sciences Dept.
2. More is available at the following web site: <http://www.hec.ohio-state.edu/hanna/cyber/index.htm>

Consumers and Cyberspace: Inequitable Distribution of Information

Alice Simon, Ohio Wesleyan University¹

Although the quality of information available on the Internet has been questioned, cyberspace has truly opened an information highway. However, even if the marginal cost of obtaining information is relatively low, the initial direct costs for getting on-line can prevent access for many consumers. Access to the Internet is a function of the ability to afford hardware and software as well as the indirect cost of time to learn a system. In addition, for some, technophobia, defined as the fear of new technology or using new technology, can reduce the likelihood that access to the information highway will be achieved.

Consumers most prone to technophobia are relatively older, have negative attitudes towards computers in general, have had little exposure to them, are female, and are in relatively lower socio-economic classes than consumers who are more comfortable using computers. Increased exposure to computers tends to reduce computer anxiety and aspects of technophobia. Hence, a counter argument can be made that if one is prone to technophobia and does not have access to computers, the likelihood of overcoming technophobia and gaining access to the information highway is slim.

Even if the direct costs of gaining access to the information highway are coming down, the indirect cost of access, measured by some degree of technophobia, will prevent access to certain groups, creating a cycle of information poverty. National data reveal that the poorest students have the least access to computers at home. Minority students are also least likely to have access to computers at home. Income and computer usage are also negatively related. Hence, those without access are least likely to gain access.

Other research on technophobia measure attitudes toward a variety of new technologies, including voice mail, FAX machines, and the like. This research focuses on the uses of personal computers and whether they are in fact accessing the information highway. Sample consists of parents of 5th graders and measures their attitudes and usage of computers, along with various demographic characteristics. Preliminary results indicate that even for those who use computers at work or at home, usage is primarily for word processing and

games, with very little usage of the Internet, even for e-mail.

The purpose of this research is to determine the extent to which technophobia may exist. This study also measures the specific ways in which households who have home computers make use of them; whether they are simply modern typewriters or an entry into cyberspace and consumer information. National statistics for 1993 reveal that the highest percentage of computer usage by students at school occurs in grades 1 through 8; 69%. However, with the exception of Kindergardeners, the lowest percentage of students using computers at home, 25%, were also in grades 1 through 8. Given the possible lack of reinforcement of computer exposure from school in the home, it was thought that a potential group of technophobic parents might exist, or at least the characteristics of such a group could be identified. Further, most other research on technophobia has focused on college students and the relationship between computer anxiety and academic performance. Some research has focused on the elderly in general, or on relatively older professionals in primary labor markets.

Little research has measured the degree to which those of prime working age across a variety of socio-economic levels may be affected. Assuming that the parents of fifth graders, for the most part, are of prime working age, the sample was selected. There are five elementary schools within the sample district. To measure the extent to which these parents might be technophobic, a series of attitudes questions were asked using a typical Likert scale ranging from 1 for strongly agree to 5 for strongly disagree. The specific statements used in the questionnaire were adapted from studies designed to measure computer attitudes and/or computer anxiety (references available from author on request). Statements were selected based on their validity and appropriateness for this study.

Results

The response rate for School A was 66.%, and for School B was 75.3%, with a total of 197 surveys returned. There were 94 males and 103 females. The

majority of these parents were employed (87%), and all were between the ages of 27 and 59, with the highest percentage (49%) between the ages of 35 and 41. Of the 183 respondents who responded to the household income question, 58% had total household incomes over \$60,000. Hence, the majority of the sample were relatively well educated, high income, and were employed in the primary labor market.

Over 78% of the respondents indicated that there was a computer in their household. Most of these home computers (60%) first appeared in the household when the fifth grader was between the ages of 7 and 12. Fifth graders are usually aged 10 or 11, hence, the computers were purchased within the last few years. Asked whether they used any computer on a fairly regular basis, over 74% of the respondents indicated that they did. Of these, 63% used a computer fairly regularly both at home and at work, whereas only 20% of the computer users only used them at work. Most had been using computers between 6 and 10 years (29%) followed by those who had been using computers between 11 and 15 years (23%). Hence, the sample consisted mainly of experienced, regular computer users, both at home and at work.

When asked how they learned to use the computers at work, 50% of the parents were formally trained through on the job training programs or in formal classes. When asked what they primarily used computers for at work, the highest percentage of usage was for word processing (42%). When asked about all the tasks they used computers for at work, 80% used them for word processing, 54% for e-mail, but only 19% for Internet information searches. Sixty-five percent used them at work for spread sheets or budgets, 23% used them at work to play games, and 14% used them for CAD.

When asked how they learned to use their computers at home, most of the parents (52%) indicated that they taught themselves through trial and error or using the written material that accompanied their computers and software. The survey did not ask whether their first exposure to computers was at home or at work, which may explain the willingness of home users to experiment on their own. However, only 24% of the respondents who used a home computer fairly regularly, indicated that they learned to do so from their experiences at work. When asked what they primarily used their home computers for, most did word processing (58%). When asked about all the tasks they used their home computer for, 86% used them for word processing, 31% for email, 34% for Internet information searches, 51% for spread sheets or budgets, and 83% for games.

Of the 17 statements designed to measure attitudes towards computers, 10 were used to determine whether a respondent would be classified as being technophobic. In general, a higher percentage of technophobics tend to be female rather than male; have slightly less formal education and lower household incomes than those of the entire sample; do not use computers as regularly as others; and have little experience using them. These findings support the notion that the income distribution may in fact widen if those with less access to computers continue to be left behind because of the direct costs of getting started or because of the implicit costs technophobia can create. As such, it may be wise to promote programs and/or policies to increase the exposure of computers in sectors of the population that would most likely not have access to them through work or other contacts.

It was also shown that Internet usage, regardless of technophobic tendencies, is not very widespread. Of those who do use the Internet, usage is higher at work for those who are comfortable with computers, whereas Internet usage is higher at home for those who are unsure about their computer attitudes. Most of the users of the Internet both at home and at work are employed in professional or managerial occupations, are relatively well educated and high income. Internet users at work are slightly older than Internet users at home, and have more computer experience. A higher percentage of Internet users at work are female whereas a higher percentage of Internet users at home are male.

This data set will be further analyzed using multivariate techniques to determine (1) characteristics of persons that would increase the likelihood of their being technophobic, and (2) factors that would increase the likelihood that someone would use the Internet. It is thought that in the estimation of factors influencing Internet usage, some measure of one's degree of technophobia should be included. Applying these models to a nationally representative sample of persons based on socio-economic characteristics would be preferable as results could be generalized to the population. Although data are available regarding the characteristics of Internet users, by definition, these data are not conducive to the measurement of technophobia.

Endnotes

1. Assoc. Professor and Chair, Economics Department, Ohio Wesleyan University, Edgar Hall, Delaware, OH 43015. Internet: aesimon@cc.owu.edu.
2. For more, see, <http://www.hec.ohio-state.edu/hanna/cyber/index.htm>

Use of the Alternative Financial Sector: Toward a Revisionist Hypothesis

The alternative financial sector (AFS) is made up of very expensive, non-traditional credit sources used by low-income consumers. This study explored the link between household income and AFS use. It was found that the heaviest users of the AFS are households who also face tremendously high implicit marginal tax rates from possible loss of public assistance. This suggests that the AFS may be used as a way to "shelter" unreported income.

Roger Swagler, University of Georgia¹
 Joan Koonce Lewis, University Georgia¹
 John R. Burton, University of Utah,²

Introduction

Over this his past year, we have developed the idea that the various sources of short-term credit utilized by lower-income consumers constitute an *alternative financial sector* (AFS). The services included under that heading, are listed in Table 1. Although some of the elements of the AFS have been explored separately (*Rent* 1993; Caskey 1994), their collective impact had not been assessed. They belong together because all typically feature small transactions, quick access to funds and very high rates.

Table 1
 The Alternative Financial Sector: Summary*

Service	Cost ^a
Rent-to-Own	APR 250-350%; higher for weekly rental.
Pawn Shops	Average APR above 200% higher in some states;
Car Title Pawn	APR approximately 300%
Refund Anticipation Loans	APR 77-204%
Check Cashing	2-10% in regulated states; informal rates higher.
Post-Dated Checks	APR 325-610%
Money Orders	Varies, but minimal

^aAll figures are illustrative; rates are highly sensitive to assumptions about amount and length of loan.

* Source: Swagler, Burton & Lewis 1995a.

We also demonstrated that the high rates illustrated in Table 1 could cripple the budget of a low-income family (Swagler, Burton & Lewis 1995b). The key word in the last sentence is *could*; the contention must be conditional because the actual impact of fees paid to the AFS depends on the level of use. Even

moderate use levels would be debilitating, but if the AFS is used only on an occasional basis, the impact on the household's finances would be less significant.

A more definitive conclusion requires data on how households actually use the AFS. To that end, we began the development of the necessary survey instrument. At the same time, we dealt with the question of the proper survey population. The AFS is usually discussed with reference to "low-income consumers," but the term is not defined. Yet the precise definition is critically important in terms of both the cost and usefulness of the data.

This paper, reports the results of our efforts to define the population of AFS users. What began as a largely technical exercise uncovered information which may alter our investigation and has potential public-policy implications extending well beyond the AFS.

The Income Criterion

There are various ways to structure the sample of low-income households. One would be to include only AFS users, with non-users grouped in a second sample. That, however, raises the possibility of oversampling and would not provide information on the *proportion* of the low-income population using the AFS. The alternative would be to include all households in certain income groups. The sample should then cover the whole spectrum of AFS use, from households who have not used alternative services at all, to those who have used a variety of services on a regular basis.

The problem with the latter approach is ensuring that the sample includes adequate numbers of AFS users. Because the actual proportion of users is unknown, contacting low-income households randomly might result in too few AFS users for statistical analysis.

Thus, it is essential to sample from a population of likely AFS users. The question then becomes: at what income level does AFS use become more prevalent? Our working hypotheses was that there is an inverse relationship between income and use of the AFS, with higher usage rates associated with lower income level. However, neither the precise form of the relationship nor the income level at which use accelerates could be specified beforehand. There was reason to believe, however, that the latter was below the median income for all households.

The Income-Use Survey

A preliminary survey was carried out to provide information about income-levels and AFS use. A random sample of 120 lower-income households in Athens-Clarke County and Oconee County, Georgia, were contacted by telephone through the University of Georgia Survey Research Center. Participants were non-student households with annual incomes below \$30,000. That figure, which is near the median household income for the area, was considered high enough to capture most AFS users.

The limitations of telephone surveys are well documented and need not be dealt on here (Frey and Oishi 1995). However, there is a particular problem with low-income households: although nearly all households in the area have telephones, most who do not are in the low-income category. That limitation had to be weighed against the cost of alternative methods and the difficulties associated with reaching some low-income groups (e.g., the homeless) by any survey method. Numbers were selected randomly from the telephone book. Random-digit dialing (RDD) represents a superior method for selecting participants. However, for a preliminary study, the major benefit of RDD, inclusion of unlisted numbers, did not seem sufficient (given this population) to warrant the higher cost.

Participants were simply asked: Which of the following have you used in the past year? They were then read the list of AFS services in Table 1. The survey ended with a question about the household's annual income (by category). By keeping the survey simple, straightforward responses were encouraged.

Results

Forty three of the 120 households contacted had used at least one of the AFS services other than money orders in the past year (Table 2).³ Because some households had used more than one of the services, the figures reported here do not represent total incidents of

Table 2
Lower Income Consumers' Use of the Alternative Financial Sector

Income	Of Sample		Of Users	
	#	Per Cent	#	Per Cent
< \$5,000	18	15.0	7	16.3
\$5-9,999	21	17.5	6	14.0
\$10-14,999	15	12.5	4	9.3
\$15-19,999	24	20.0	16	37.2
\$20-24,999	18	15.0	6	14.0
\$25-29,999	11	9.2	3	7.0
NA	13	10.9	1	2.3
Total	120	—	43	—

AFS use. It is clear from Table 2 that our supposition about an inverse relationship between income and AFS use was *not* supported by the data.⁴ AFS use does increase below \$20,000, but with one exception, the distribution of users follows the distribution of the sample rather closely. The exception is the \$15,000-19,999 category, where the proportion of users was almost twice what one would predict. This finding requires additional consideration and interpretation.

Toward a Revisionist Hypothesis

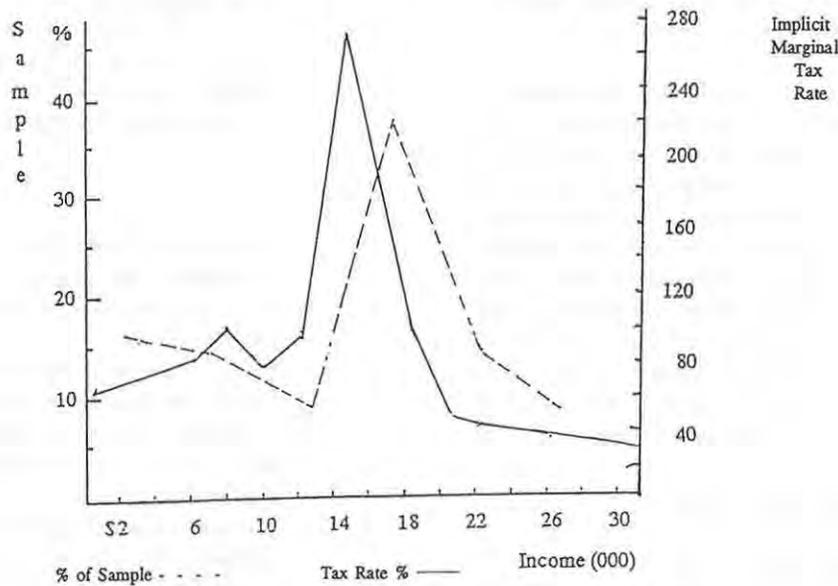
The first step in interpreting the spike in AFS use is to consider the position of households with annual incomes in the \$15-20,000 range. If these households are of typical size, they would be *at or just above the poverty level* according to federal guidelines. Thus, their incomes would be in the range where additional earnings could be associated with the possible loss of public assistance.

When benefits are counted as part of income, additional *earned* income may be more than offset by losses in benefits. Walden (1995) has calculated the implicit marginal tax rates associated with loss of benefits for households in this group.⁵ The solid line in Figure 2 (read with the scale on the right) shows that marginal rates can approach 300%. Data from Table 2 are superimposed on the same figure using the scale at the left. Both marginal tax rates and AFS use are characterized by spikes, with the latter coming at a slightly higher income level.⁶ The question then becomes: is there more to this than an obvious coincidence in the patterns of both sets of data?

We cannot provide a definitive answer to that question with the data available. However, there are reasons to suggest that the answer is *yes*. Our new hypothesis would be, then, that AFS use is linked to the broader question of public assistance. That link deserves explanation.

Figure 1

AFS Usage Rates (left) and Implicit Marginal Tax Rates (right) by Income Level*



* Source: Usage, Table 2; Tax Rates, Walden, 1995. Reproduced with permission.

One advantage of the AFS is that it is largely anonymous; transactions cannot be traced, which we mentioned previously in the context of the informal economy (Swagler, Burton and Lewis 1995a). For households in the \$15-20,000 range, this can be very important because reporting additional income carries a heavy penalty. By avoiding conventional financial institutions (through which transactions could be traced) and using the AFS, consumers can operate invisibly. Thus, casual workers are paid in cash, using money orders when a negotiable instrument is needed. Check-cashing outlets are available for when checks are received and pawn shops or rent-to-own stores may be used for short-term credit. Note that the household may even keep a checking account (and hence be able to cash post-dated checks), but not use it for most financial transactions. In short, the alternative financial sector becomes a mechanism for households to shelter their income. They may earn, and spend, income which, if reported, would disqualify them from significant amounts of public assistance.

At least two other sources of support may be found for this hypothesis. The first is the magnitude of the rates involved. At a time when a 17% marginal tax rate is being touted as a worthy goal, rates 10 to 15 times as high seem incomprehensible. Look again, however, at the rates charged by the AFS in Table 1. These rates seem unreasonable when compared to conventional

credit charges, but do not appear nearly so outlandish when compared to the marginal tax rates households might otherwise have to pay. The reference points make sense.

Secondly, participation in the informal economy, or off-the-books employment, by lower-income consumers is well documented.⁷ Popular press accounts suggest that the informal economy is at the heart of economic activity in many urban areas (Templin 1995). The same point is made in scholarly studies. In a report on 214 AFDC recipients and 165 low-wage workers in four cities, Edin (1995) reported that 40% worked in the informal economy and 86% received covert payments from family, friends or absent fathers. For AFDC recipients, 34% of monthly income came from covert payments, the informal economy or the underground economy. In other words, these households had something to shelter and would, presumably, have suffered significant losses had the income been reported.

To the extent that sheltering income is a driving force behind use of the AFS, traditional responses (including our own) miss the mark. Programs to improve consumer protection, expand educational efforts or expand disclosure will be ineffective because the problem is not rooted ignorance or manipulation. Let us emphasize that we are not suggesting that the income-shelter function explains all AFS use. Educational and

related efforts will still be needed for many, probably most, users. To the extent, however, that the AFS is linked to more general questions of qualifying for public assistance, an entirely new dimension must be considered.

We have not proved that point. Both data and methodological limitations make that impossible. Our goal is merely to raise the possibility as a serious consideration which merits further investigation. Doing so implicitly raises two other points. First, low-income consumers may behave much more like their middle-income counterparts than is commonly accepted. The mechanisms are different (and, in the case of low-income consumers, often misunderstood), but the goal is the same. Secondly, the alternative financial sector should not be considered in isolation, but as part of the fabric of the economic life of the low-income consumer.

Acknowledgements

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Endnotes

1. Associate Professor, Housing and Consumer Economics, Athens, GA 30602-3622.
2. Associate Professor, Family and Consumer Studies.
3. Money orders were not included because they tend to be used by a wider segment of the population. Thus, the analysis was confined to those services most closely associated with low-income groups.
4. It should be noted, however, that the data do contradict the common contention that low-income groups do not use credit (Canner, Kennickell & Lueckert 1995). Such statements may be true for *conventional* credit sources, but not if one includes the AFS. That fact underscores the importance of including the AFS in analyses of household credit use.
5. Walden's calculations are for North Carolina. His income measure includes earnings, earned income tax credit, AFDC, Food Stamps, housing assistance and Medicaid benefits, minus social security, federal income and state income taxes and expenses associated with work and child care (1995, 73).
6. Walden notes that the tax-rate spike begins at about \$14,000 and extends to \$20,000, which corresponds almost exactly with the income category in our study.
7. Terminology here can be confusing. The terms *underground*, *off-the-books* and *informal economy* are sometimes used synonymously. More commonly, the underground economy refers to illegal activities. We use informal economy to mean work for income which is unreported. Off-the-books activity includes both of these, as well as covert payments and in-kind support from friends and family members.

Low-Income Consumers' Use of the Alternative Financial Sector

This paper examines low-income consumers' use of the Alternative Financial Sector (AFS). It focuses on types of services used, frequency of use, reasons for use, and intended future use. Results indicated that all of the alternative financial services, with the exception of payday loans, were used to some extent by respondents in the study. Frequency of use varied considerably but reasons for use and intended future use were similar among respondents. The most important reason for using the AFS was the immediate need for cash.

Joan Koonce Lewis, University of Georgia¹
 Roger Swagler, University of Georgia²
 John R. Burton, University of Utah³

Introduction

As noted in the previous paper by Swagler and Lewis, low-income consumers tend to be heavy users of the Alternative Financial Sector (AFS). Thus, use of the AFS poses high costs on the segment of the population which can least afford them (Swagler, Burton, & Lewis, 1995a; 1995b). If the cost of these services are high, then why are low-income consumers using them? The goal of this paper is to shed some light on this important question.

Methodology

Sample and Data Collection

Data for this preliminary study were collected via two different sources: focus group interviews and telephone surveys. Data from the focus group interviews were collected in Summer and Fall 1995 in five local housing projects in Georgia. A total of 27 persons who had used one or more alternative financial services participated in the interviews. As noted in Table 1, the mean age of the sample was 37.9 years. The majority of the sample were black (96.3%), female (92.6%), and had incomes below \$4,999 (51.9%).

Data from the telephone surveys were collected in Winter 1996. The sample consisted of 120 persons (users and nonusers of the AFS) whose annual incomes were \$20,000 or below. Refer to Swagler and Lewis in the previous paper for additional information on data collection procedures for the telephone surveys. With the exception of the income cutoff, data collection procedures were the same. Demographic characteristics for this sample are presented in Table 2. The questions examined in this study from the focus group interviews

and telephone surveys, to determine why low-income consumers use services provided by the AFS, are provided in the Appendix.

Table 1
 Demographic Characteristics: Focus Groups (n=27)

Variable	Frequency	Percent	Mean
Age			37.9
Race			
White	1	3.7	
Black	26	96.3	
Gender			
Male	2	7.4	
Female	25	92.6	
Income			
Below 4,999	14	51.9	
5,000-9,999	4	14.8	
10,000-14,999	3	11.1	
15,000-19,999	2	7.4	
20,000-29,999	1	3.7	
Above 30,000	1	3.7	
No Response	2	7.4	

Data Analysis

To examine low-income consumers' use of services in the AFS, the data collected via the focus group interviews were transcribed and summarized. Because there were so few users of the AFS in the telephone surveys, differences between users and nonusers could not be examined. Therefore, frequencies and percentages were calculated to describe the behavior of the users of the AFS.

Focus Group Findings

The most widely used services in the AFS among all five focus groups were rent-to-own programs, check-cashing outlets, refund-anticipation loans, and pawn shops. Less frequently used were car-title loans and payday loans. Only one person had used a car-title loan, and payday loans were not used by anyone. This was not surprising given that very few of the respondents had checking accounts.

Table 2
Demographic Characteristics: Telephone Surveys (n=120)

Variable	Frequency	Percent	Mean
Age			46.2
Household Size			2.5
Gender			
Male	36	30.0	
Female	72	60.0	
Missing	12	10.0	
Marital Status			
Married	43	35.8	
Single	35	29.2	
Div/Sep	22	18.3	
Widowed	20	16.7	
Education			
< 8 Years	9	7.5	
8-12 Years	17	14.2	
HS Diploma	24	20.0	
Some College	39	32.5	
College Grad	19	15.8	
Post Grad	12	10.0	
Income			
Below 3,000	10	8.3	
3,000 -5,999	10	8.3	
6,000 -8,999	10	8.3	
9,000-11,999	10	8.3	
12,000-14,999	23	19.2	
15,000-17,999	22	18.3	
Above 18,000	27	22.5	
Don't Know	3	2.5	
No Response	5	4.2	

Reasons noted by respondents for using *rent-to-own programs* included bad credit, no down payment needed, cheaper per payment, and no credit check. "You can spend \$32 a month and get a house full of furniture" said one respondent. Another said "They don't check credit-don't ask for anything. You just go in and maybe fill out an application, and they bring it on out to you."

The following reasons were given by respondents who used *check-cashing outlets*. These

were no ID, no transportation to bank, no bank account, and convenience (unavailability of banks on weekends and at night). Respondents pointed out that check-cashing outlets stayed open until 7:00 or 8:00 pm. Some reasons stated for not having a bank account were can't get an account if you receive AFDC, the bank hassles you (e.g., if a person does not have sufficient money in their account to cover the check, then the bank will not cash it), and worry about bouncing checks because of inability to balance the checkbook. One respondent stated "I had a checking account once, but it was a ripoff, so I got rid of it. I asked the bank to hold a check for one week until I deposited the money. They did not hold the check and charged me \$15 for insufficient funds." On the other hand, some respondents who had used check-cashing services, now felt that they were ripoffs.

"I want my money quick, needed the money bad, and emergency" were common responses given by respondents who used *refund-anticipation loans*. One person said "I am entitled to get my money back then." Another said "It is right after Christmas, and I'm behind in my bills."

There seemed to be only one reason for the use of *pawn shops*. This was "I needed some money." One person stated "I got behind, and it was hard to catch up. I needed some money."

The reason the person used the *car-title loan* was "I wanted to get another car, so I pawned the car I had." The respondent further indicated that the cost incurred wasn't worth it because the loan lasted 2 years, 3 months and 4 days.

Use of the money provided through services in the AFS, as noted by respondents, was used to pay bills. "The money is needed for needed items, not wanted items" said one respondent. Overall, respondents knew that the services in the AFS cost more than services provided through the TFS. They also knew that the cost of the service depended on the size of the transaction (e.g., the size of the check being cashed). However, frequency of use varied among respondents. Some said they use some of the services on a routine basis while others said they use them every now and then. "It depends on what I want. I go in when I need something" said one respondent.

Telephone Survey Findings

As shown in Table 3, a small percentage of the 120 respondents used services offered by the AFS. Excluding money orders, only 18.3% of the sample used one or more of the services. Only 8.3% of the sample used refund-anticipation loans, 6.7 % used pawn shops, 1.7% used car-title loans, 7.6% used check-cashing outlets, 0% used post-dated checks (payday loans), and

.8% used rent-to-own programs. Approximately 43% of the sample used money orders; however, a large number (60.9%) had used them only a few times in the past 12 months.

Table 3
Users and Nonusers of the AFS (n=120)

Variables	Users Frequency (%)	Nonusers Frequency (%)*
One or More Services	22 (18.3)	98 (81.7)
RALs	10 (8.3)	108 (90.0)
Money Order	51 (42.5)	69 (57.5)
Pawn Shop	8 (6.7)	111 (92.5)
Car-Title Loan	2 (1.7)	118 (98.3)
Check Cashing	9 (7.5)	110 (91.7)
Post-Dated	0 (0.0)	119 (100.0)
Rent to Own	1 (0.8)	119 (99.2)

*Because of missing data, frequencies and percents don't always equal 120 and 100%, respectively.

The reasons given by respondents for using pawn shops were money was available immediately (100%), people were friendly (75%), location was convenient (62.5%), not much hassle (50.0%), didn't think the bank or finance company would loan them the money (37.5%), cost less than other places (25%), and no credit check required (12.5%). Money was available immediately and didn't think the bank or finance company would loan were listed as the two most important reasons. Approximately 63% noted that their use of pawn shops would either stay the same or increase.

The 1.7% of the sample who used car-title loans only used them once. Fifty percent of those who used this service did so because they thought the people were friendly and it cost less than other places, while 100.0% listed all other reasons as important. The most important reason for use of this service was money is available immediately. Fifty percent said their use of this service would decrease while the other half said it would stay about the same.

Among those respondents who used check-cashing outlets, frequency of use ranged from 1 to 14 times, with average use of 7.7 times. Reasons for use included money available immediately (100.0%), didn't think bank or finance company would loan them the money (88.8%), people were friendly (77.8%), convenient location (66.7%), not much hassle (66.7%),

no credit check required (33.3%), and cost less than other places (11.1%). Most important reasons given were money available immediately, convenient location, people friendly, and not much hassle. About 78 percent said their use of this service would either remain the same or increase.

The 0.8% of the sample who used rent-to-own programs only used the program once. Further, 100% of those who used rent-to-own services listed all of the reasons for their use. However, the most important reason noted was not much hassle. Future use of rent-to-own by this group was expected to remain the same (100.0%).

An interesting finding is that half of the respondents who used one or more AFS services (excluding money orders and RALS) did feel welcome at banks or credit unions, and 66.7% felt that banks and credit unions were located conveniently. A smaller percentage (33%) felt welcome at the AFS businesses, and felt that these businesses were conveniently located (50%). However, respondents were more likely (41.7%) to use AFS businesses because they saw these businesses in their neighborhoods than any of the other reasons listed. Approximately 17% used the AFS at the recommendation of a friend or relative and the encouragement of a newspaper or flyer, while 8.3% were encouraged by a radio or TV announcement.

Summary

Results from this study indicate that, to some extent, low-income consumers use all of the AFS services except payday loans. However, frequency of use varies among respondents and types of services. Some respondents use some of these services frequently while others use them once or twice. Even though frequency of use is low for many, the majority noted that their use would probably stay the same or increase. Many reasons were given for use, but the most important reason provided for use of AFS services was the immediate need for cash.

The findings of this study are consistent with the examination of Yellow Page advertisements in Swagler, Burton and Lewis's (1995a) study. The results of this examination concluded that businesses in the AFS use immediacy, convenience, friendliness and cost to attract customers with immediacy emphasized most in advertisements. Obviously, the AFS businesses have developed strategies to attract their target market. Therefore, consumer educators have to map out strategies which will help low-income consumers avoid these high cost financial services.

Appendix

Focus Group Questions

1. What do you do when you need money for something and you don't have enough on hand?
2. What might be the reason someone would go to an Alternative Financial Service?
3. What do you usually do with the money you have borrowed?
4. Where do you go when you want to cash a check, send cash, file taxes, or any other AFS service?
5. Does the AFS charge more than the Traditional Financial Sector (TFS)?
6. How much more do you think they charge?
7. How often do you use AFS for these services?

Telephone Survey Questions

1. During the past 12 months, have you gotten a rapid refund on taxes? Yes or No.
2. During the past 12 months, have you purchased a money order? Yes or No.
3. How often have you purchased a money order in the past 12 months?
4. Have you purchased money orders a few times, several times, or a great many times?
5. During the past 12 months, have you pawned something at a pawn shop? pawned a car title? used a check-cashing service? cashed a post-dated check? used rent to own? Yes or No.
6. For each of the services respondents used, they were given a list of reasons why people might use type of service and asked to indicate if that reason is why they used type of service. The reasons given to respondents were 1) no credit check was required, 2) not much hassle, 3) the people were friendly, 4) location was convenient, 5) money was available immediately, 6) it cost less than other places, and 7) didn't think bank or finance company would loan me the money.
7. Which was the most important reason you used type of service?
8. How often have you used type of service in the last 12 months?
9. Do you think your use of type of service will decrease, stay about the same, or decrease in the future?
10. When you do business with a bank or credit union, do the people make you feel welcome?
11. When you use the businesses we've discussed-pawn shops, rent-to-own stores, and check-cashing outlets, do the people there make you feel welcome?
12. Are banks and credit unions located conveniently for you?
13. Are the businesses we've just discussed-pawn shops, rent-to-own stores, and check-cashing outlets located conveniently for you?

14. What encouraged you to use the businesses we've discussed (that is, pawn shops, rent-to-own stores, or check-cashing outlets)? Did a recommendation of a friend or relative encourage you to use these types of businesses?
15. Did a TV or radio announcement encourage you to use these types of businesses?
16. Did a newspaper or flyer encourage you to use these types of businesses?
17. Did you see one of these businesses in your neighborhood and decide to use it?

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1. Associate Professor, Department of Housing and Consumer Economics, University of Georgia, Dawson Hall, Athens, Georgia 30602-3622.
2. Associate Professor, Department of Housing and Consumer Economics.
3. Associate Professor, Department of Family and Consumer Studies.

The Impact of Rising Bank Fees on the Use of Alternative Financial Services

Rising bank fees and reduced services have helped force low-income consumers into the alternative financial sector. Laws and regulations, such as caps on fees and eased restrictions on credit unions, can benefit these disenfranchised consumers. Low-income consumers can take advantage of financing available to form nonprofit cooperatives to replace predatory enterprises such as check cashers. Financial Consumers Associations can be established to counsel consumers and represent consumer interests.

Janice C. Shields, Center for Study of Responsive Law¹

Commercial banks generated profits of \$48.8 billion in 1995, marking the fourth consecutive year of record bank earnings. The \$4.2 billion jump in profits compared to 1994 resulted primarily from increased interest and fee income. Interest spreads, the difference between rates charged by banks for loans and rates paid on deposits, were among the widest in history.

According to the Federal Deposit Insurance Corporation, more than \$15 billion in revenues was generated from service fees on deposit accounts in 1995, reflecting the successful implementation of a three-part fee strategy by financial institutions. Banks are: (1) increasing existing fees, (2) inventing new fees, and (3) making it more difficult for accountholders to avoid fees by, for example, raising the minimum balance needed for fee waivers. The number of fees assessed by banks has risen from 96 to 250 in just five years, according to a review of bank fee brochures. Some of the newer fees include charges for deposit corrections, fees for closing an account by mail and dormant automated teller machine (ATM) card fees assessed for not using an ATM card enough.

The quest by bankers for ever-higher profits has helped to push low-income consumers from traditional financial institutions into the clutches of the alternative financial sector. Not only are low-income consumers being priced out of the traditional banking sector, but draconian cost-cutting efforts undertaken to further boost banks' bottom lines have led to shuttered branches and reduced services in poorer neighborhoods. Check cashing outlets and pawnshops prey upon these disenfranchised consumers. Instead, positive alternatives, including lifeline banking, credit unions and cooperatives, should be supported. Additionally, Financial Consumers Associations can become a vehicle for cast-off consumers to organize for change.

Traditional Banking Sector Casts Off Low-Income Consumers

Rising bank fees and shuttered branches are helping to force low-income consumers into the clutches of the alternative financial sector.

Pricing Consumers Out of Traditional Banking Sector

The Center for Study of Responsive Law and the U.S. Public Interest Research Group reviewed bank fee brochures from across the country in August 1995 (U.S. Public Interest Research Group and Center for Study of Responsive Law, 1995). Results of the survey showed that bank fees had risen at twice the rate of inflation from 1993 to 1995. Regular checking accounts cost an average \$202 annually, an increase of 10 percent since 1993.² The balance needed to avoid fees was \$1,242, up 30 percent since 1993. Fees for savings accounts increased 9 percent from 1993 to 1995, to \$30.89 annually. Survey results showed that consumers would incur a net annual cost of \$25.29, after their interest earnings were deducted, to maintain a savings account with a balance of \$200.

The survey also found that large banks - those in the top 300 nationwide in terms of deposits - assessed higher fees than smaller banks. For example, annual costs for regular checking accounts were 9 percent higher at large banks compared to small banks. Similarly, the Federal Reserve Board reported in September 1995 that out-of-state banks, e.g., large interstate banks, assessed higher fees than in-state banks.

Limiting Traditional Banking Services in Low-Income Neighborhoods

Traditional banking services are limited in poorer neighborhoods, especially relative to the offerings in the more wealthy suburbs. The push by financial

institutions to get their customers to use electronic banking may further disenfranchise low-income consumers.

A 1994 survey by the New York City Public Advocate's office found that the number of commercial bank branches in New York City had declined 7.4 percent from 1978 to 1994, while the number of suburban branches had increased 10.3 percent (Green, The Poor Pay More, 1994). A shift in population was not a factor. The number of residents had increased in the low-income areas of New York City experiencing the largest decrease in the number of bank branches. Conversely, the population had remained constant or decreased in the wealthier suburbs where the number of branches had increased.

A second 1994 survey by the New York City Public Advocate's office found a disparity between the wealthier suburbs and the low-income areas of New York City in terms of the number of bank branches and ATMs per resident and the number of hours that branches were open (Green, Don't Bank On Us, 1994). There were fewer residents per bank and per ATM and banks were open more hours, especially during evenings and on week-ends, in the suburbs.

Banks, such as Citibank, have promoted electronic banking, including home-based computer banking, as a low-cost alternative to traditional banking methods by offering low or no fees on these transactions. Activists, though, argue that many older customers and the poor have difficulty adjusting to the new technology (Kraus, 1996). Critics charge that banks simply don't want to serve moderate and low-income people and are practicing "retail reengineering." Citibank, for example, has closed or converted to automated banking centers 24 percent of its New York City offices.

Alternative Financial Sector Preys on Disenfranchised Consumers

The alternative financial sector, including check cashing outlets and pawnshops, preys on consumers cast off by traditional banks. Laws and regulations can limit the sector's most egregious practices.

Check Cashing Outlets

According to the 1994 survey by the New York City Public Advocate's office (Green, The Poor Pay More, 1994), there is an inverse relationship between check cashers and bank branches in a neighborhood. In the poorest areas, the number of residents per bank branch is twice the number per check casher; in wealthier areas, the number of residents per check casher is more than six times the number per bank branch. Yet,

the Check Cashers Association of New York claims that there is no statistical relationship between the closing of a bank branch and the opening of a check cashing store (Goldman, 1994). The Association testified instead that the main reason for the proliferation of non-bank users was "socioeconomic," not the high cost of banking services or branch closings.³ At the time, the Association was attempting to limit potential damage to its members from a New York law requiring banks to offer low-cost checking accounts.

In New York alone, check cashers cash more than 30 million checks each year, with a total face value of more than \$10 billion. Nationally, fees assessed by check cashers range from 2 percent to 10 percent of the face value. According to the New York City Public Advocate office's survey (Green, The Poor Pay More, 1994), consumers who rely on check cashers pay about \$500 per year to cash checks and pay bills, compared to \$60 if they had used a bank. One way to limit price gouging by check cashers is to pass legislation and implement regulations capping fees. In New York state, for example, the fee is set by the Superintendent of Banks and is currently 1.1 percent of the face value of the check.

Pawnshops

At pawnshops, a broker makes a fixed-term loan to a consumer who leaves collateral in the possession of the broker. The collateral is returned if the loan and fees are repaid; if not, the broker keeps the property and the debt is extinguished. In many states, pawnshops charge interest rates as high as 240 percent (Hudson, 1993).

Disclosure requirements of the federal Truth-in-Lending Act (TILA) may provide some protection for consumers. Borrowers have won a number of TILA cases against pawnshops. American Title Brokers, for example, ran a "Pawn the Title and Keep the Car" scheme where borrowers pledged their cars as collateral for a loan. The borrowers simultaneously both borrowed money and leased their cars from American Title Company, paying weekly rental fees on the loan and the lease. The weekly rental rate was determined by the amount of money the customer borrowed and the weekly lease payment was always 10 percent of the amount of the loan. In Pendleton v. American Title Brokers, Inc. [754 F.Supp. 860], the court concluded that the weekly rental charge was imposed incident to the extension of credit and constituted a finance charge. Pendleton was awarded statutory damages, attorney's fees and costs because the lease agreement did not conform to TILA requirements because the interest rate, total of the payments and fees were not disclosed.

Empowering Disenfranchised Financial Consumers

Lifeline checking accounts, credit unions and cooperatives can make financial transactions affordable. Financial Consumers Associations can educate consumers and represent their consumer interests.

Lifeline Checking

Lifeline checking accounts offered by financial institutions charge low or no fees and allow a limited number of free transactions each month. In New Jersey, for example, all banks are required by state law to offer lifeline checking with a maximum required balance of \$1, a maximum monthly fee of \$3, unlimited free deposits and eight free checks per month. The New York state legislature has passed a similar law. Unfortunately, federal law may preempt the New Jersey law and many NY banks fail to promote the account.

In 1992, the Office of the Comptroller of the Currency (OCC) issued a decision giving national banks permission to ignore the New Jersey lifeline banking law. The OCC claimed that the New Jersey law conflicted with the federal Bank Enterprise Act which reduces deposit insurance premiums for banks that offer low-fee basic banking services to low-income communities.⁴ According to the OCC, the federal law makes offering lifeline-type accounts voluntary, while the New Jersey law requires banks to offer these accounts. The New Jersey Department of Banking recently asked the OCC to review its decision. The Department of Banking argues that the federal and state laws do not conflict, since both the New Jersey legislature and the U.S. Congress intended to make banking services available to low-income people.

The New York lifeline banking law went into effect in January 1995. A survey by the New York Public Interest Research Group one year later found that (1) one in six branches did not offer a lifeline account at all, (2) no branches had signs about lifeline banking, (3) representatives in 43 percent of the branches that offered lifeline checking did not volunteer information, and (4) brochures describing lifeline banking were easily accessible at only 40 percent of the branches surveyed (New York Public Interest Research Group, 1996).

Credit Unions

In July 1994, the federal government liberalized membership rules to allow credit unions to move into low income areas, i.e., areas where the average income is less than the national average. Previously, affiliation rules for credit unions were stricter, requiring a common bond such as occupation or association (e.g., union membership). Credit unions generally assess fewer fees

and offer lower fees than banks; unfortunately, credit union fees are rising.

According to data collected by the Credit Union National Association and Sheshunoff Information Services, far fewer credit unions than banks charge fees for such things as checking accounts, bounced checks and credit cards (Rhoads, 1996). Credit unions that do assess fees, do so at much lower rates than banks. However, credit unions are relying much more on fee income than they did a few years ago and fee income as a percentage of average assets is growing much more quickly at credit unions than at banks.

Cooperatives

A cooperative is a business owned and controlled by those who use its services. The member-users finance and operate the business for their mutual benefit. Control is democratic and earnings are distributed according to patronage provided by the members or retained in the business for overall member benefit. Purchasing cooperatives provide members with consumer goods, products for resale through their members, or equipment, supplies or services for their business operations. Service cooperatives provide services related to the production of a product or service for individuals or businesses.

In 1978, Congress passed the National Consumer Cooperative Bank Act, after determining that user-owned cooperatives were a proven method for broadening ownership and control of economic organizations, increasing the number of market participants, narrowing spreads between producers' prices and consumers' prices, raising the quality of goods and services available to cooperative members, and building bridges between producers and consumers and their members and patrons. Congress had found that consumer and other types of self-help cooperatives had been hampered in their formation and growth by the lack of access to adequate cooperative credit facilities and the lack of technical assistance. Therefore, Congress established and funded through federal appropriations the National Consumer Cooperative Bank (NCB) to make available necessary financial and technical assistance to cooperative self-help endeavors. Today, the NCB is a private, cooperatively-owned financial services company and a leading source of financing for cooperative enterprises. The NCB Development Corporation is the development finance affiliate of the NCB, providing financing to start-up and existing cooperatives and working with developers, intermediary organizations and others to finance cooperative ventures.

Low income neighborhoods are frequently victimized by profiteering businesses that target the poor.

Examples include second mortgage companies, pawn shops, check cashers, used-car dealers, finance companies and rent-to-own stores. All of these enterprises could be established by member-users as nonprofit cooperatives funded by the NCB, thus making the services available without the price-gouging of unscrupulous entrepreneurs. For example, philanthropic pawnshops, including the Provident Loan Society (PLS) of New York City, have existed throughout the United States (Caskey, 1994). These institutions recognize that the poor need loans at certain times and provide loans on anything of value, at more reasonable, fixed rates. In 1991, the PLS made 56,428 loans totalling \$15,213,129 from its six locations in New York City. The loans ranged from \$25 to \$25,000, and averaged \$270, compared to \$60 at commercial pawnshops. Interest rates averaged 26 percent, compared to 36 percent charged by commercial pawnbrokers.

Financial Consumers Associations

Financial Consumers Associations (FCAs) are state-chartered, nonprofit organizations, formed by financial consumers and based on the Citizens Utility Board (CUB) concept. CUBs are organized advocacy groups that give consumers a voice in regulatory proceedings which control monopoly utilities. Their effectiveness in saving utility consumers from unwarranted rate increases and educating the public about energy conservation has been impressive. The Illinois CUB, for example, assisted in saving consumers over \$3 billion in eight years and participated in a major settlement of six cases against Commonwealth Edison, resulting in 12-month savings of \$272 for the average single-family residential consumer.

FCAs can empower low-income consumers by providing them with the expertise to make sound financial decisions and by giving them an effective, unified voice in legislatures, regulatory agencies and judicial proceedings. Specifically, FCAs publish educational material, collect and report comparative information about financial institutions and products, and counsel consumers about financial alternatives. FCA advocates represent consumer interests before state and national legislatures and agencies in order to obtain consumer-friendly legislation and regulations. FCA attorneys assist consumers in arbitration and court cases against financial institutions.

Conclusion

Banks are casting off low-income consumers by raising prices and reducing services. Laws and regulations can protect these disenfranchised consumers

by, for example, setting caps on fees, mandating adequate disclosure and easing restrictions on services. Low-income consumers can help themselves by establishing their own financial service cooperatives and forming educational and advocacy organizations.

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2. All cost calculations used industry averages for items such as the number of checks cashed, ATM transactions, bounced checks and returned deposits.
3. Socioeconomic factors include the decline and stagnation in incomes of lower-paid households.
4. The value of this incentive is now negligible because the FDIC recently cut deposit insurance premiums paid by 83 percent.

The Alternative Financial Sector: Policy Implications for Poor Households

This paper discusses the effects of banking deregulation and technology on poor households and the subsequent rise in the alternative financial sector. It concludes with an analysis of policy solutions to problems regarding the use of alternative financial services by poor households.

John R. Burton, University of Utah¹
Roger Swagler, University of Georgia²
Joan Koonce Lewis, University of Georgia³

Introduction

The alternative financial sector (AFS), defined as including pawn shops, check cashing outlets, rent-to-own firms, and refund anticipation loans, was introduced and defined in the previous papers by Swagler and by Lewis. These colleagues have used data from preliminary studies to inform the literature as to the characteristics of persons who use financial services of the AFS, which services they use, and why they might use them. In this paper, the pros and cons of policy strategies that might be considered in protecting poor households in their dealing with the AFS are discussed.

Evolution of Consumer Debt

Although consumer credit has been around for a long time, it was not until after WWII that this type of credit became widely used. In recent years it has grown to the extent that consumer debt causes alarm among many economists. For the past four years, the percentage of wages that services debt payments has risen from around 1.5% in 1991 to about 10% in 1995 (Bleakley, 1995). 1995 also saw a sharp increase in personal bankruptcies and credit card payment delinquencies (Bleakley, 1995). Much of this debt is in the form of credit card charges.

Yet, poor households may differ from non-poor households in the type of debt they incur. In a Chicago study, only 44% of poor households use credit cards, whereas better than three-quarters of the non-poor use them. In addition only 27% of the poor have auto loans and 5% have home equity loans, whereas the non-poor have 59% and 15% respectively (Metro Chicago, 1994). Since the poor need sources of credit as much, if not more than the non-poor, it can only be assumed they are turning to alternative sources.

These sources probably consist of friends and relatives, underground financial markets and the AFS. In response to the needs of poor households, the AFS has grown substantially in recent years (Casky, 1994; Marino, 1993).

Evolution of Credit Policy

Although substantive government policy regarding credit is generally a 20th century phenomenon, credit policy dates back to biblical days whereas the charging of interest on loans is prohibited in the Old Testament. Early U.S. credit regulation was primarily in the area of usury laws. However, in the consumer protection heyday of the late 1960s and early 1970s, several milestone credit laws were passed on the federal and the state level. These laws generally took three forms: information disclosure (e.g., Truth in Lending 1968), anti-discrimination (e.g., Equal Credit Opportunity Act, 1974; Community Reinvestment Act, 1977), and specific prohibitive behavior in credit reporting and credit collection (e.g., Fair Credit Reporting Act, 1972, Fair Debt Collections Practices Act, 1977). Since 1977, there has been little substantive pro-consumer federal credit legislation. There has been some anti-consumer credit legislation passed on the state level during post-1970s era in the form of usury law relaxation and laws to protect the rent-to-own industry in the 1990s. Banking deregulation on the federal level in the early 1980s, although not explicitly about credit policy for the poor, has had a substantial impact (Brobeck, 1991; Obermiller, 1988). One of the primary impacts of banking deregulation on poor households was the merging of many banks with the resulting decrease in the number of competitors and therefore the number of banks particularly in outlets in poor neighborhoods (More bank Mergers, 1996, How Good?, 1996). The

number of community banks went from 9,667 in 1980 to 2,733 in 1995 with the number of remaining banks expected to decrease by another 50% by the year 2000 (O'Brien, 1995a). The decrease in competition may have also lead to a dramatic increase in banking fees (see O'Brien, 1995b, also the concurrent paper by Shields). Banks, in an attempt to maximize profits, appear to have a greater interest in the more lucrative accounts of larger patrons and less interested in the small accounts of the poor. Also, with the mergers, there is a trend toward the management of the banks being more distant from many of their customers. Local banks under local management may be more sensitive to the needs of the local community.

Impact of Technology in Banking on Low-income Households

Not only has banking deregulation impacted financial services, technology has also had a substantial consequence (How good...? 1996). The advent of the ATM has brought convenience to most middle and upper class Americans, but not a commensurate advantage for the poor. With cash machines, banks see less of a need for neighborhood banks (How good...? 1996). Yet ATMs, if located in poor neighborhoods, may not be used by the poor due to personal security reasons. In addition, a bank account or credit card account is a prerequisite to ATM access.

Many banks are introducing and hyping computer banking. However, this is also not an option to the poor and this technology may have the propensity to replace branches (O'Brien, 1995c). The poor typically work and live in a cash society and computer banking is often limited to electronic money transfers. When the poor are also the elderly, then there is a great unwillingness to use both the computer and the ATM forms of high-tech banking (Seniors Shun high tech 1994).

The use of credit cards is another segment of the technological revolution in banking. A survey reported in Business Week "Plastic Talks", (1995) revealed that consumer payments made by check in transactions conducted outside the home are used by about 22% of the population, down from about 29% in 1987, cash use is down from about 48% in 1987 to 32% in 1994, and that plastic use is up from about 28% in 1987 to 45% in 1994. This may indicate that the poor, who typically do not have credit cards, are becoming more disenfranchised from financial services than are the non-poor.

A basic appeal of the services of the AFS is the absence of technology in access to financial services. The providers of alternative financial services, like providers of alternative health services, emphasize personal service, rather than efficiency, in the dealing with their clientele. Observations in Athens and in Salt Lake often noted emphasis on the personal approach that was given to the clients.

As with any free market when a void is created, it is filled by an opportunistic entrepreneur. The void left by the loss of local banks, banks sensitive to the needs of the poor, and banks with reasonable fees, has been filled by the explosion of financial outlets in the AFS.

Discussion of Regulation and the Alternative Financial Sector

There are various approaches to policy questions concerning the AFS. The approach one would take would reflect how the AFS is perceived. Three views of the AFS (not necessarily mutually exclusive) are presented here along with policy approaches based on these views. The three views were articulated by Swagler, Burton and Lewis (1995a) and are as follows: The AFS is:

1. A logical market response to a set of problems faced by certain consumers. In this view, the AFS provides legitimate services for which there is a demonstrated demand;
2. a benign development which, unfortunately, facilitates consumers worst tendencies. This is similar to #1, but incorporates the possibility of abuse resulting from consumers' lack of knowledge or will power;
3. an evil industry (in whole or in part) which preys upon consumers who typically lack both political and economic leverage and thus have difficulty protecting themselves.

If one accepts #1, then the best policy may be to enact no direct regulatory policy. That is, under classical economic theory, this market will self correct and any interference with the market may have externalities that ultimately may be counter productive. However, there would still be a need for stringent anti-trust enforcement (Brown, 1993).

If one accepts #2, then proposed policy would emphasize education and counseling. Only education policy will be discussed here. For a discussion of counseling as it relates to the AFS, see Swagler, Burton and Lewis (1995b).

Education Policy

Policy that emphasizes education has the advantage of inviting only minimal government intervention. The trend to small government, either rightly or wrongly, is currently much in political fashion and therefore more acceptable to those who shape policy. Education may also be regarded as an investment in human capital and may be equated with the biblical admonition about giving people fish versus teaching people how to fish.

However, is education a realistic solution? Persons who use the AFS are beyond the age of formal education. In addition, extension and other type of social service programs reach relatively few persons. Public service announcements on TV might be effective; however, would this media really be prone to showing programs that would negatively affect its sponsors? Also, the mechanics of credit in the AFS are complex and continually changing thus making it difficult for anyone, let alone, someone with limited educational sophistication, to cope with the complexities of financial services. A greater concern is that even informed consumers may not be influenced by information concerning the excessive cost of services in the AFS. For persons who have external constraints, or who are impulsive, or have short time horizons, information and education is of little value (Swagler, Burton, & Lewis, 1995b)⁴. However, Alwit and Donley (1996) discount the idea that low-income consumers have short time horizons.

Disclosure Policy

Closely related to education policy would be policies to force information disclosure for products sold by the AFS. At one level it is intuitive to assume that a person would avoid paying from 300% to 500% APR for a loan. Although it might appear that a discussion about TIL disclosures is moot since federal and state truth-in-lending laws should already address this issue, observations of the AFS market in Georgia and Salt Lake by this author and his colleagues show that TIL disclosure of credit terms are generally ignored in advertising and in contracts. Many states have adopted rent-to-own legislation sponsored by the r-t-o industry that specifically declares that r-t-o transactions are not credit, therefore, the implicit interest rate for r-t-o transactions is generally not available in an explicit form. Post-dated check cashing is another example of how TIL is easily circumvented. When someone cashes a post dated check, there is no sign that says the APR is 520% and there is typically no contract involved. Even if disclosure requirements for TIL were enforced, would

this change behavior for those clients with external constraints or with short time horizons?

Prohibition Regulation

If we take the approach that the AFS is an evil industry which preys upon consumers who have difficulty protecting themselves, then we may wish to proscribe any predatory behaviors ascribed to the AFS.

Prohibiting specific unconscionable behaviors does have certain advantages. Theoretically it protects all consumers, not just the ones who are able to take advantage of education and disclosure. Nor does it rely on voluntary compliance of the lenders. And, although this may not be considered an advantage by all policy makers, tough rules for lenders may protect debtors from their own weaknesses. On the other hand, for example, it restricts the choice of a casher of a post-dated check who has an immediate need for cash and little or no compunction about paying the exorbitantly high interest rates.

Advocating prohibitions on credit practices is not without other disadvantages. First, additional government regulation of markets is not politically feasible in today's less government, pro-business environment⁵. Even the relatively mild consumer banking regulations that have been on the books for decades are being challenged in Congress and in regulatory agencies. Second, because of the vast numbers of firms in the AFS, regulation would be costly and difficult. Third, lenders are clever when it comes to circumventing credit laws thus making restrictive laws irrelevant. And last, because of the typical lack of government enforcement, to get the protection from credit laws, consumers need to know their rights in the marketplace. Yet it takes a very sophisticated consumer to understand his/her credit rights and demand them for lenders.

Although credit regulation for the AFS may not be currently feasible at the federal level, some states may still have a desire to protect low income consumers knowing that if they are not concerned about the outflow of cash from a household, they may have to compensate by increasing welfare to the household.

Selected regulatory policies concerning the AFS are discussed here.

Usury Laws. Historically, one of the more utilized government credit policies has been the regulation of interest rates. For an extensive discussion of usury laws see Pridgen (1994). Usury laws went into disfavor during the double digit inflation of the late 70s and early 80s. It was argued that capping interest rates made lenders less likely grant loans to the less credit

worthy people therefore cutting them off from legitimate credit.

Is capping interest rates for the services in the AFS a viable policy? Are the rates that often range between 300% and 520% APR exploitive or are they reasonable rates when risk, overhead and the market cost of money are factored? If the rates being charged are excessive compared to reasonable market rates, capping might be appropriate. If the rates are reasonable market rates when risk and other costs are considered, then any attempt to cap the rates below a reasonable market rate will only create a black market in lending and/or will drive the licensed lenders to find ways to circumvent usury statutes. Loan sharks who operate outside the law will probably be more predatory than licensed AFS lenders. In addition, AFS lenders have circumvented usury laws by making loans "off the books" and by using some other inventive methods. Pawn shops have been known to "buy" the pawned good from the customer and then "sell it back" to him/her later at an implicit usurious rate. In a rather complex scheme in Georgia, in order to circumvent usury laws concerning the cashing of post-dated checks, some lenders have developed a creative plan. In this scheme, they take title to some durable good (but do not physically take the good) of the debtor, accept a post-dated check for the amount the amount of cash immediately given the debtor plus an amount that the debtor is paying to lease back the good he/she just transferred to the seller. The title for the good is transferred back to the debtor when the lender cashes the check at a later date. This convoluted scheme with an APR in excess of 500% is called cash leasing.

Rent-to-Own Regulation Rent to own, sometimes referred to as a lease-purchase agreement, is a different regulatory problem. Although rto looks like credit, functions like credit, and an implicit APR can be calculated for rental agreements, the r-t-o industry has persuaded many legislatures to pass model "consumer protection" laws that essentially do some disclosures while at the same time, limiting competition in the rto industry and defining rto as *not* being credit. Ayer (1983) posits that "[a]ll the common uses of [these] leases are designed to avoid some other rule of law which produces and unfavorable result in a particular case." Burnham (1991) states that transactions in the form of a lease are used to evade some public policy--Uniform Commercial Code on differences between a lease and credit sale, Fair Debt Collections Practices Act, usury laws, the Truth in Lending Act, and states' retail installment sales acts. Therefore, a giant step in the regulation of the rent-to-own industry would be to repeal or rewrite the industry sponsored r-t-o laws so that the rent-to-own industry would have the same disclosure

restrictions as credit. Burnham (1991) suggests, TIL laws as applied to the rto may be confusing to the consumer and should be rewritten to fit the r-t-o industry. However, this assumes the demand for r-t-o services is elastic, that r-t-o customers would then shop around for cheaper rent-to-own deals or optimally, the customer would compare the r-t-o price to the price plus interest charge of products from traditional merchants.

A New York law on the rent-to-own industry not only has disclosures and prohibitions, but also has a substantive provision that prohibit the total r-t-o cost from exceeding double the cash price (Burnham, 1991). However, calculating the cash price becomes problematic since the lessor will designate a list price that others merchants often discount. For an extensive discussion of suggested ways of regulating the rent-to-own industry, see Burnham (1991).

Sometimes courts become involved in setting policy concerning the AFS as in some cases involving rto. In a Connecticut decision, the legal concept of unconscionability high price was used to invalidate an r-t-o agreement where a consumer paid \$1268 for a television that typically sold for \$499. The court held that the unequal bargaining power of the buyer obligated the seller to explain the true nature of the contract (Murphy v. McNamara, 1979, cited in Pridgen, 1994). However, courts have not been consistent in this regard since in another case, a Kansas judge ruled that it is not unconscionable to charge \$1768 for a television that had a retail value of only \$918. In its finding, the court noted that the consumer not only had the use of the television but also received extra benefits such as not having responsibility for repairs, not having to pass any credit worthiness standard, and having the option to return the good at any time (Martin v. Heindol Commodities, 1991, cited in Pridgen, 1994). A U.S. judge in Minnesota recently ruled that rent-to-own contracts are subject to state usury laws and similar suits are pending in other states (Lambert, 1995).

Other Specific Prohibitions Prohibiting certain specific credit practices is not new. The FTC, using the legal principle of unconscionability, has proscribed such practices as holder-in-due-course, confession of judgement, and referral sales. Prohibitions that currently might be considered are bans on car title loans and bans on post-dated check cashing. Although some states have these bans, many states still permit them. Prohibitions on post-dated check cashing are particularly hard to enforce since this practice can be so easily done "off the books." The most that any ban might accomplish is limit the overt practice by discouraging advertising for such a scheme.

Increasing the Supply of Banking Services

Increase Incentives for "Rebanking"

Independent of the three ways that the AFS may be viewed, one way to approach the problems surrounding poor household's use of the AFS is to encourage "rebanking" to correct debanking. The term rebanking is used here to describe a policy to encourage a greater supply of traditional banking services in low income areas. Rebanking would give these households an alternative and would create competition for the AFS and in theory create a downward pressure on financial service prices. Since there is a debanking trend in the low income areas and this is presumably driven by technological alternatives and by insufficient profit margins, market forces alone may not be sufficient to provide lower cost alternatives to the AFS. Therefore a carrot and stick approach might be considered.

Using a stick approach, a licensed lender, would be required to provide branches in low income areas in exchange for the privilege of doing business in the city or state. The Community Reinvestment Act (CRA) takes a similar approach. The CRA authorizes federal financial regulatory agencies to refuse applications for bank mergers and branch openings if the applicant is not meeting the needs of the local community. In recent years, regulatory agencies have sought to weaken the requirement of the CRA.

The stick approach has both political and logistical problems. With the trend for less government, especially encouraged by the politically powerful banking industry, such a requirement would not have much political support. With the trend to regional and national banking, and the changing landscape of the banking industry with mergers and buyouts, it might be difficult to enforce a requirement for neighborhood banking.

The carrot approach may be more promising. By giving the traditional lenders some incentives in the form of tax breaks or some competitive advantage, these may, along with a desire to present a better image, encourage traditional lenders to compete with alternative lenders. However, the traditional lenders would need to learn the culture of the AFS patrons. To many of the poor, the lender is just not providing a loan, but is also giving value added in the form of personal and caring service.

Casky, who has done extensive research on portions of the AFS, favors moderate regulatory efforts to push low-cost banking services in low-income neighborhoods. He believes the regulators should draft reasonable regulations that allow the institutions that are providing services to the poor to survive (Federal

Reserve Board, 1995). In addition Casky believes federal regulators should make a responsible effort to enforce these regulations.

Grass Roots Banking

Cooperatives have long been a source of consumer commodities for the poor, whether it is food or electricity. Credit unions are a type of co-op that grew in response to consumer needs for savings and credit. Co-ops should not be overlooked as a possible partial solution to financial needs of low income households. For example, in a project in Cincinnati, a coalition of concerned neighbors, social service professionals, and churches in conjunction with a credit union, established a cooperative to provide basic financial services within a poor community. Not only was the cooperative involved in lending, it also developed systems for financial education. However, this project necessitated a grant, leadership, and dedicated citizens. For additional information on this project see Miller (1993).

Summary

Although the economic problems of poor households are exacerbated by their use of the services in the alternative financial sector, finding a policy to deal with problems presents many complexities. First, one has to decide if the AFS is a logical market response to a particular need not met elsewhere in economy, a benign institution facilitating consumer worst tendencies, or some evil industry with the sole purpose of exploiting the poor. Depending on how one perceives the AFS affects what policy one would advocate. If one does propose policies that encompass required disclosures, prohibitions, substantive action such as interest caps, or incentives for lenders to service low-income neighborhoods, several externalities must be considered along with political realities. In addition, any policy must take into consideration not only the technical attributes of the AFS but also the external and internal constraints of their clients. To ignore the financial need and the culture of the users of the AFS would result in a less than well-informed policy.

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Endnotes:

1. Associate Professor, Department of Family and Consumer Studies. 228 AEB, FCS, University of Utah, Salt Lake City, Utah 84112.
2. Associate Professor, Housing and Consumer Economics
3. Associate Professor, Housing and Consumer Economics
4. A preliminary analysis of survey data collected in Georgia by Swagler and Lewis indicates that immediacy is a prominent motivator for obtaining services from the AFS.
5. A paper by Chakravarty, Feinberg, and Widdows, "Banking laws and the consumer," concurrently presented at this conference reports that banking customers believe that federal regulation in the banking industry is very important.