

tend to start families when they are in their twenties and their consumer needs are very great in the early stages of the family life cycle. Installment credit serves as a mechanism for bridging this gap. By mortgaging future income, the family is able to meet its current consumer wants. Installment credit is thus a device for leveling the income curve over the occupational career. The empirical data supports this view. It turns out that young families, those with pre-school children, are most likely to have installment debts.

The explosion in consumer credit is also intimately connected with the changing residence patterns of Americans, the development of suburbs, and the growth of home ownership. Almost three out of every four American families are home owners. The home owner has substantial consumer needs. He must not only fill his house with furniture and appliances, but he and his wife must have a car as well.

Apart from the reasons why consumers want installment credit, the growth of this institution owes a great deal to the efforts of the business community to sell the idea of credit buying to the American public. When installment credit first came into being, it was a means of selling merchandise. But the business community has discovered that there is so much profit to be made in credit that now the relationship is reversed; merchandise has become a device for selling credit. It is increasingly difficult to buy things for cash in the face of the merchant's propaganda to buy on credit. Automobile rentals and hotel rooms in America depend on credit cards, not cash.

From a sociologist's point of view, consumer credit has interesting implications for theories of social class. In America, sociologists traditionally measure social class in terms of income, education and occupation. The credit society has introduced a new dimension, a person's credit rating, which is independent of the older dimensions of income, education and occupation. There are some high paying occupations, like the entertainment industry, that have low credit status, because employment in these fields is not secure. The cash buyer, who lacks a track record in the world of credit, also has a low credit rating. Many people who use credit for the first time are shocked to learn that they cannot borrow as much as they would like.

Consumer credit has several other implications for sociologists. For one thing, it would seem to make people more conservative, more dependent on steady income and less willing to take risks. Second, it undermines that old middle class trait of deferred gratification. Buying now and paying later means that people do not have to defer their gratifications. Young couples need not delay marriage until they can afford to set up a household.

One undesirable consequence of consumer credit is that it has been a major stimulus to consumer fraud. When market transactions depended on cash, sellers had little opportunity or incentive to employ deception and fraud. The consumer who could afford to pay cash for an automobile or expensive appliance was probably more deliberate and sophisticated in his shopping behavior and there was no point in trying to convince the person without money to make an expensive purchase. All this changed with the advent of installment credit. Whether or not the consumer can afford the purchase is now a secondary consideration. Once the contract is signed, the seller can count on the power of the state to enforce his right to payment.

It should be noted that consumer credit has completely transformed the nature of a transaction. In the old days, when buying and selling depended on cash, a transaction occurred when merchandise was exchanged for money. The seller handed over goods to the buyer and the buyer handed over money to the seller. In the credit society, neither merchandise or money are exchanged. A transaction occurs when the two parties, the buyer and the seller, affix their signatures to a piece of paper called a contract. Once this happens, a legally binding transaction has occurred.

In this world of consumer credit, it is possible for fraud to occur at either end of the transaction. The would-be consumer who signs the contract may well be a fraud in that he has no money, and even if he has money, he may have no intention to pay. But it is equally possible for fraud to happen at the other end of the transaction. The would-be seller, for example, might be passing himself off as a used car dealer. But if the metallic objects on his lot are incapable of moving the buyer from one place to another, then he is not a seller of automobiles, for by definition, an automobile must be able to move if it is to qualify as a car. One might suppose that when a fraudulent consumer deals with a fraudulent seller it would be a stand-off. But this simple logic overlooks the complexity and biases of consumer credit law. As I shall soon show when I review these laws, the crooked seller always won and the crooked buyer always lost.

A professor at Yale Law School, Arthur Leff, wrote a book called Swindling and Selling in which he points out the close connection between the confidence game and retailing. His thesis is that retailers frequently employ the same gimmicks that confidence men use to fleece their victims. He notes that confidence men make a distinction between the "little con" and the "big con." In the "little con" the confidence man is after all the money in the victim's pocket. In the "big con", the confidence man sends the victim to his bank to withdraw his life savings. As Leff observes, when retailing was strictly a cash operation, salesmen

were limited to the "little con." But with the advent of consumer credit, retailing suddenly became "big con." Once the consumer's signature appears on the contract, the seller has access not only to his bank accounts and property, but to his future income as well through the device of wage garnishment.

THE CHANGING LEGAL CONTEXT OF CONSUMER CREDIT

Until recently, the laws regulating consumer credit were heavily biased in favor of creditors and the consumer movement over the past several decades has worked hard to get these laws changed and many of them have been rescinded. The problem arose because the growth of consumer credit was so rapid that it took the legal profession by surprise. Instead of evolving a new body of law regulating consumer credit, the courts and legislatures simply adopted an old body of law, commercial law, and applied it to the radically different situation of consumer credit. Commercial law and the law of commercial credit regulates relationships between businessmen. As several legal scholars have noted, a major factor contributing to the success of commercial law is what they call the noncontractual element in contract. By the noncontractual elements they mean the personal relationships that exist among the businessmen who have been dealing with each other for years. When something goes wrong, for example, when a shipment of widgets is not up to snuff, the buyer calls the seller and complains. The seller explains that the machinery was on the bum when those widgets were produced and he offers to reduce the price. The problem, more often than not, is quickly resolved over the telephone. But the situation is quite different in the world of consumer credit. The buyers and the sellers do not know each other. The disputes quickly result in law suits. Each year, millions of law suits are filed by creditors trying to collect from debtors and the courts are inundated by such law suits.

Holder-in-due-Course. Of all the biased laws regulating consumer credit, perhaps the worst was the doctrine of the "holder-in-due-course." Under this doctrine, the third party who financed the transaction, typically a bank or finance company, was relieved of any responsibility for the transaction. If the merchandise was defective, the buyer could sue the seller, but meanwhile he had to pay the third party and should the consumer not pay on faulty merchandise, the third party, the holder in due course, could sue him and get the state to enforce his right to payment. The holder-in-due-course doctrine was a big boon to consumer fraud. All kinds of notorious selling schemes flourished under this doctrine. For example, door-to-door salesmen selling \$500 burglar alarms that were probably worth \$50, would move into a community, get their customers to sign contracts, promptly sell the contracts to third parties, and then disappear. Expensive food freezer plans were sold this way and more recently foreigners in New York have been sold tape recorders and tapes for \$500 that would presumably teach them English. Once the

customer realizes that he has been cheated, he soon discovers that he cannot locate the seller. Meanwhile, he has to pay the holder-in-due-course. It is in this fashion that the crooked seller always won out over the crooked buyer.

Fortunately this is no longer true. The Federal Trade Commission passed a regulation abolishing the holder-in-due-course in consumer transactions. Now any holder of the consumer credit contract is subject to all the claims and defenses that the buyer can assert against the original seller. But the doctrine of holder-in-due-course is not completely dead. It turns out that the third party can be held liable only in those transactions in which the seller gives the buyer a warranty on the goods sold. Sellers of new cars in New York have a clause in the contract that says they are not responsible for any defects in the car; only the manufacturer is. As a result, the third party in an automobile transaction is still entitled to payment since the buyer has no defenses against the seller which could be applied to the third party.

Confessions of Judgment. Another notorious law was the confession of judgment. This was a clause in the contract whereby the consumer waived his or her right to notice and a hearing concerning the debt. The creditor was given the automatic right to enter a judgment against the debtor for the amount owed on the theory that the creditor must be right and therefore the debtor can be saved court costs by agreeing beforehand that the fault was his. This perverse doctrine has finally been abolished in almost all states.

Wage assignments. Should the debtor default, creditors can now get a judgment and garnishee the debtor's wages. But there was a time when a wage garnishment clause was part of the contract under which the creditor could attach the debtor's wages without first getting a court judgment and without regard to federal limitations on garnishments. Again this nefarious practice has been abolished.

Add-on Contracts. Most merchants used a device known as the add-on contract under which subsequent purchases were added to the original contract. As a result, the merchant could repossess all the goods the consumer ever bought even though the consumer thought he had long paid for the items purchased years earlier. The reason he hadn't was because the payments were pro rated to all the items purchased so that no purchase was paid for until all were paid for. The add-on contract has been reined in in some states. New York now has a law forbidding repossession of merchandise bought on an open ended contract.

Deficiency judgments. Another horror in the world of consumer credit is the deficiency judgment. When merchandise is repossessed, it is almost always resold for far less than its true market value. This is especially true of repossessed automobiles which are generally resold at a wholesale price. The debtor is given credit only for this wholesale price which is deducted from his

debt and the creditor can then sue him for the balance. As noted, many of these laws have changed and the legal bias against the consumer is much less today.

THE STRESSES AND STRAINS OF THE CREDIT SOCIETY

Consumer credit has been a major factor in the growth of the economy and the creation of what was termed the affluent society. Buying now and paying later has been a great boon to the economy as consumer demand has stimulated economic growth. But this of installment credit, for all its benefits to society, has also given rise to a new, pervasive and most serious social problem: debt entanglement. Each year, more than twelve million workers have their wages garnisheed by their creditors. When you consider that federal employees cannot be garnisheed and that garnishment is prohibited in some states and that the self-employed, the unemployed, and those who live in poverty cannot be garnisheed, my guess is that anywhere from twenty million to thirty million Americans are hopelessly entangled in debt.

Two hundred years ago, the Federal government invented a cure for this problem, but only a fraction of the people who suffer from debt entanglement take advantage of this remedy. The remedy is personal bankruptcy. During the sixties and early seventies, the personal bankruptcy rate was about 168,000 cases a year. In the mid-seventies, there was a serious recession and personal bankruptcies shot up to 250,000. In 1979, the Federal government, which had not changed the bankruptcy law in more than eighty years, issued a new bankruptcy law which the credit industry claims makes it easier for people to declare bankruptcy. But shortly after the new law went into effect, America had the worst recession since the great depression. Mainly because of this recession, but perhaps because of the new law as well, the personal bankruptcy rate has almost doubled and it is now about 450,000 a year. But this is still only a small fraction of the people who are hopelessly entangled in debt, a group of people that my research has shown, have had their health, marriages and jobs suffer because of their debt problems. My guess is that the stigma of bankruptcy and ignorance about it are major obstacles to the use of this remedy by the millions who are suffering from debt entanglement.

Back in the late sixties I did a study of debtors in default and I was able to learn who these people are, why they got into debt trouble and how the legal system operated in these consumer credit cases.

Although the majority of credit users in America are members of the middle class and are white and fairly well educated, the default debtors tend to be from the less privileged groups. I found that the overwhelming majority were from the working class rather than the middle class and they tended to be from the minority groups, Blacks and Puerto Ricans and other Spanish speaking people. Default debtors are also not as well educated as most debtors are.¹

The research showed that debt troubles wreck havoc with the lives of consumers. About half of the more than thirteen hundred default debtors we interviewed said that their debt problems had injured their health and about the same number said that their marriages had suffered and more than a third said that their jobs had been affected; either they lost their job or were worried they would lose their job because their employers resented the creditor's contacts and the garnishment orders.

The credit industry's party line is that debtors default because they are irresponsible "deadbeats", but my research showed that this view is not at all true. About half the default debtors got into trouble because they lost income, either because of job loss or illness. About twenty percent defaulted because they had taken on too many debt obligations. Significantly, the next largest group—about 17 percent, stopped paying because they felt they had been cheated by the merchant. The merchandise was defective or it was the wrong merchandise or the creditor lied about the cost. About eight percent defaulted because their marriages had broken up and one partner assumed that the debt belonged to the other. Only 4 percent were so-called "deadbeats" in keeping with the creditor's stereotype.

Perhaps the major findings of my research had to do with the total breakdown of the judicial system in consumer credit law suits. Almost all of these law suits ended up in default judgments as the debtors failed to show up in court to defend themselves. I refer to this as "rubber stamp" justice since the court does not assess facts and render decisions, but rather court clerks simply stamp papers "default judgment." The courts act merely as collection agencies for the creditors.

As I have noted, a substantial number of these debtors have valid defenses, yet they are almost all victims of default judgments. There are many reasons why debtors fail to defend themselves. A major reason is that they cannot afford to hire the lawyers they need. The amount of money in dispute typically ranges from \$300 to \$800 and a lawyer would cost more than that. One reason why many debtors do not show up in court is that they never receive the summons telling them they are being sued. Process servers in New York are notorious for simply throwing the summons away, a practice known as "sewer service." Still another reason why debtors do not go to court is that they cannot afford to take time from work. The courts in which they are sued are open from nine to five, the very hours in which most debtors work.

The research showed that debtors default mainly because they have come upon hard times. The legal system only compounds their problems. They have judgments entered against them, their goods are seized, their wages are garnisheed, their jobs are threatened and their health and marriages suffer. In many respects, default debtors are people whose lives have been ruined.

AN ALTERNATIVE SYSTEM

I have been deeply troubled by the misuse of the legal system in consumer credit and I have tried to imagine alternative systems which would not have the stresses and strains of the current system. I have come up with an alternative model and for what it is worth, I would like to share it with you.

Consumer credit, like many other things in life, involves risk. The system depends on the debtor's ability and willingness to pay. As my research showed, many things can undermine the debtor's ability to pay and sometimes he loses the willingness to pay. Society long ago invented a way of coping with risk. It is called insurance. The risk of dying has given rise to life insurance; the risk of fire, to fire insurance, and the risk of theft to theft insurance. Instead of relying on a harsh collection system, why can't consumer credit be put on an insurance basis? When the debtor defaults, the creditor would be made whole by the insurance system.

The insurance system of credit would require each consumer to be issued a credit limit card. (Instead of having five, ten, or fifty credit cards, the consumer would have only this one credit limit card.) The consumer's credit limit would be set by his income and his past credit record. When the consumer goes to make a purchase he would show his credit limit card to the merchant who would plug it into a remote terminal connected to the data bank that would have every consumers' credit record. If a green light goes on it would mean the consumer is not at his credit limit and can afford this new purchase. But a red light would mean that the consumer is already at his limit and the merchant can extend him credit only at his own risk. The transaction would not be covered by the insurance system. This system would have many virtues. For one thing, it would eliminate a major reason for defaults, consumers overextending themselves. In this system, no debtor would be able to take on more debts than he can handle. Other advantages of the system are that consumer cases would be taken out of the courts, thus taking a heavy burden off the court system. Creditors would never have to worry about losing good will because of their collection tactics and they would not have to worry about debtors going bankrupt.

The question arises as to how to pay for this insurance system. I am convinced that it can be financed by a percentage of the finance charge. Consumer credit today costs about 20 percent interest. A fair number of these percentage points are intended to cover the creditor's losses and risks. In my system, about half the finance charge say 10 percent, would go to the insurance company. I have no idea whether a private insurance company could make a profit selling credit insurance. If it could not, it might still be in the interest of government to offer such a credit insurance system. It would be much less costly than having 20 to 30 million people hopelessly entangled in debt with the resulting damage to health,

employment, and the economy. The debt entangled consumers have been forced out of the marketplace. Were they restored to health, they would be active consumers again, stimulating the economy. The insurance company might well work out some arrangement with the default debtors, allowing them to pay when they are back on their feet.

Critics of my system argue that consumers would take advantage of it and walk away from their debts. But this criticism overlooks a powerful weapon that the credit industry has to insure consumer honesty: the consumer's credit rating. Consumers do not want to jeopardize their credit rating and therefore will pay their bills. I have talked about this idea before groups of merchants, bankers and consumers and I haven't been able to convince anyone of its merits. Perhaps some of you might consider this an idea whose time has come.

REFERENCE

1. Caplovitz, David. Consumers in Trouble, A Study of Debtors in Default. New York: The Free Press, 1974

A. Charlene Sullivan, Purdue University¹Abstract

The Tax Reform Act of 1986 established a schedule for phasing out the deductibility for federal income tax purposes of interest paid for credit cards and other nonmortgage consumer loans. This paper contains estimates of the effect of TRA on the after-tax cost of consumer and mortgage credit and of the percentage of total consumer credit outstanding used by households that itemized deductions.

The Tax Reform Act (TRA) of 1986 established a schedule to phase out the deductibility of interest paid on credit cards and other nonmortgage consumer debts. The deductibility of finance charges paid for credit cards, auto loans, student loans and other consumer loans will be phased out over a four-year period. In 1987, 65 percent of such interest will be deductible, 40 percent in 1988, 20 percent in 1989 and 10 percent in 1990. The purpose of this paper is to analyze the role of federal income taxes in consumers' credit-use decisions and to evaluate the likely effects of tax reform on household credit markets. Included is a discussion of credit-users' ability to substitute mortgage credit for consumer credit.

IMPACT OF THE TAX REFORM ACT ON
THE COST OF HOUSEHOLD CREDIT

Households use credit when the marginal utility derived from increasing current consumption above the level provided by current income exceeds the marginal costs associated with using credit. Interest paid for consumer loans was deductible for taxpayers with other deductible expenses that exceeded the standard deduction. Therefore, the cost of credit for those borrowers was reduced by the tax shield created by the interest expense deduction.

Under the old tax rules, the higher the taxpayer's marginal tax rate, the higher the value of the tax shield created by interest expenses and the lower the after-tax cost of credit (for those who itemized deductions). Holding the interest rate constant, low income borrowers paid a considerably higher after-tax rate for credit than those borrowers in the higher income bracket (Table 1). Therefore, the negative effects of tax reform on the cost of consumer credit will be greatest for high income borrowers. As shown in the bottom panel of Table 1, after the interest deduction is fully phased out, the after-tax cost of consumer credit will be between 57 percent and 83 percent higher for borrowers with annual income above \$50 thousand. Low- and middle-income borrowers who continue to use consumer credit

¹Associate Professor of Management and Acting Director of the Credit Research Center

will see an increase in their after-tax cost of consumer credit ranging between 20 and 34 percent.²

Under the Tax Reform Act, mortgage interest will remain fully deductible. And, households may borrow against home equity for consumer purposes to a limited extent and deduct the interest in the calculation of adjusted gross income. Those households with adjusted gross income below \$30,000 who substitute home equity loans (mortgage credit) for consumer credit will realize a decline or only a slight increase in their after-tax cost of credit (-1 percent to 1 percent). (Table 1) For all other income groups, the cost of credit will increase between 9 percent and 16 percent if mortgage credit is substituted for traditional consumer credit contracts.³

This analysis demonstrates the magnitude of the disincentives for borrowing to invest in consumer durables contained in the TRA. In fact, the benefits of all types of capital investments are reduced by TRA. For capital equipment investments, the reductions come from the elimination of the investment tax credit and longer depreciation schedules. For investments in consumer durables the disincentive comes from the increase in the after-tax cost of credit. In the next section we use cross-sectional data collected in the 1983 Survey of Consumer Finances to estimate the extent of consumer credit use among taxpayers whose cost of credit may be adversely affected by TRA.⁴

DO CREDIT-USERS ITEMIZE?
CROSS SECTIONAL EVIDENCE

Those households who used consumer credit but did not itemize deductions for tax purposes will realize no increase in their cost of consumer

²The effects of TRA on the general level of interest rates have not been taken into account. If TRA is associated with a drop in interest rates, the figures in Table 1 overstate the rate of increase in the cost of credit.

³This statement is based on the simplifying assumption that the before-tax cost of consumer and mortgage credit is the same. The increased cost simply reflects the decline in value of the tax shield associated with deducting interest at a lower marginal tax rate.

⁴The Survey Research Center at the University of Michigan collected extensive information related to the composition of assets and liabilities for a national sample of 3,824 households. These data are entitled the 1983 Survey of Consumer Finances and are available from the Board of Governors of the Federal Reserve System.

credit as a result of the provisions contained in TRA related to the deductibility of interest paid on nonmortgage consumer debt. Therefore, the assessment of the impact of TRA on consumer credit markets must separate credit users into itemizers and nonitemizers.

TABLE 1. Marginal Tax Rates: Before and After the Tax Reform Act (tax rate (t) used to determine the after-tax cost of credit) Where After-tax Cost = (1-t) (interest cost)

Income (000)	Before (t)	After (t)
\$13-25	.166	.176
26-30	.189	.180
31-50	.251	.184
51-100	.364	.316
101-200	.455	.370

Source: Hendershott, Follain, Ling. "Real Estate and the Tax Reform Act of 1986." p.34.

Income (000)	Percentage Increase in After-tax Cost of Credit	
	Mortgage	Consumer
\$13-25	1%	20%
26-30	+1	23
31-50	+9	34
51-100	+8	57
101-200	+16	83

The Internal Revenue Service reported that in 1984, 38 percent of taxpayers itemized deductions.⁵ Some have cited that statistic as an indicator that the impact of tax reform on the consumer credit industry will be small. But, the percentage of taxpayers who itemize must be evaluated relative to the percentage of households using consumer credit to fathom the true potential impact of TRA on consumer credit use.

According to survey data collected at different points in time over the last 15 years, approximately 50 percent of households use consumer instalment credit at any point in time [1; 2, p.94]. In an analysis of the incidence of consumer credit use by households by income quintile, the probability of debt use was highest for households in the highest income quintile (Table 2). Sixty-one percent of households with annual income greater than \$35,463 used consumer credit while only 29 percent of those in the lowest income quintile used credit. And even more important, the credit users in the highest income quintile held 42 percent of consumer credit outstanding in the survey. Those in the lowest income quintile held only 4 percent of consumer credit outstanding.

Households that itemize must have deductible expenses that exceed the standard deduction.

⁵In 1983, 37 percent of total individual returns itemized deductions, according to information in the Statistical Abstract of the United States, 1986, p. 317. The Internal Revenue Service reported 38 percent of individual tax payers itemized deductions in 1984. *USA Today*, 2 February 1986.

Those households that are most likely to have deductible expenses that exceed the standard deduction are those currently paying on a home mortgage. The third panel in Table 2 shows that in the highest income quintile, 77 percent of households using consumer credit also were paying on a mortgage. Only 17 percent of borrowers in the lowest income quintile were paying on a mortgage.⁶

These data support the conclusion that in 1983 the bulk of consumer debt was held by high income households--those who were likely to pay taxes at a high marginal tax rate and enjoy a low after tax cost of consumer credit. Most expected to be more than the standard deduction. In total, 60 percent of consumer credit outstanding in 1983 was held by households with a mortgage (panel D, Table 2). Those debt users were likely to have itemized deductions and deducted interest paid on consumer loans.

TABLE 2. Credit Use Patterns 1983**

	Income Quintile				
	Lowest	Second	Third	Fourth	Highest
A. Proportion of households with consumer debt	29	49	53	60	61
B. Share of total consumer debt in survey*	4	11	17	26	42
C. Proportion of debt-users with a mortgage	17	30	46	62	77
D. Percent of consumer debt in quintile held by households with mortgages	0.68	3.3	7.8	16.1	32.3

*The total debt figures include a measure of revolving credit card debt which excludes the convenience use of credit cards.

**In the 1983 survey, the income breaks for the quintiles are:

Lowest	\$ 0 - 9,500
Second	9,501 - 17,090
Third	17,091 - 24,478
Fourth	24,479 - 35,462
Fifth	35,463 and up

Source: *1983 Survey of Consumer Finances*, Board of Governors of the Federal Reserve System.

To reinforce the conclusions drawn from the survey data about credit users who itemized, data produced from the Internal Revenue Service were further analyzed. While 38 percent of taxpayers itemize deductions, 70 percent of itemizers in 1984 claimed nonmortgage interest deduction.⁷ Thus, an estimated 27 percent of taxpayers claimed nonmortgage interest deductions (.70 x .38).

⁶Sullivan and Worden [5] found that, holding other things constant, households with a mortgage were significantly more likely to use consumer credit and used a significantly higher amount relative to income than households without a mortgage.

⁷Individual Income Tax Returns 1984, Statistics of Income Division, Internal Revenue Service, November 1986.

With approximately 50 percent of households using consumer credit at any point in time and 27 percent of taxpayers claiming nonmortgage interest deductions, an estimated 53 percent (.27/.50) of households using consumer credit deducted nonmortgage interest expenses for tax purposes in 1984.

In sum, the cost of consumer credit for about 53 percent of credit users (62 percent of consumer credit outstanding) would be impacted by the provisions of the Tax Reform Act. In the next section, likely adjustments to TRA are identified and discussed.

BORROWERS' OPTIONS: THE IMPLICATIONS OF TAX REFORM ON CREDIT MARKETS

Based on estimates from the previous section, the elimination of the deductibility of consumer interest will increase the cost of consumer credit for a significant percentage of households using consumer credit. The household borrower who normally deducted consumer credit interest expense for tax purposes has several options for adjusting to the effects of TRA on the cost of using consumer credit.

Option 1. The borrower may delay consumption. With the higher cost of debt, the marginal utility of immediate consumption may not be sufficiently high to justify borrowing. To counter the effects of lower spending on the economy, the Federal Reserve may effect monetary policy to reduce the general level of interest rates. Thus, the cost of credit for low-bracket borrowers may not change much as a result of TRA. However, even with lower interest rates in general, the cost of consumer credit for high bracket individuals will increase significantly.

Option 2. The buyer might pay cash instead of using credit. This option is available for those who borrow for consumption purposes while maintaining liquid asset balances. Analysis of the 1983 Survey of Consumer Finances revealed that about 38 percent of borrowers (who held about 35 percent of consumer credit outstanding) had liquid asset balances at least equal to their total outstanding consumer credit obligations [6]. Without the tax incentive to use consumer credit, these households may opt to pay cash. The other 62 percent of credit users had very low liquid asset balances and could not pay cash unless they delayed consumption to save for major purchases.

Option 3. The borrower may shop more for credit. Rather than delay consumption, the borrower might expend more effort shopping for the best interest rate on financing. Consumers most likely to shop for interest rate for consumer loans are upper income, educated, young borrowers, those who are likely to see an increase in the cost of consumer credit as a result of TRA [7]. Consumers were also more likely to shop for the best interest rate for large loans than for small loans. Therefore, TRA may have a more dramatic effect on the

market for auto credit than on the market for smaller loans.

Option 4. The borrower may be more receptive to credit pricing arrangements where the cost of financing is intermingled with the cost of merchandise or noncredit services. The new non-deductibility of interest for traditional types of consumer credit clearly reduces the buyers' incentive to shop for the merchandise and financing separately. Under the conditions where consumer interest is not tax deductible, special financing programs offered by manufacturers may be even more effective than was the case in the past.

Lenders who are not manufacturers may price credit according to other relationships the consumer may have with the lender. Credit card prices may be determined by the number of other banking services used by the cardholder. Such pricing arrangements provide a lower cost of credit for the credit user who is sensitive to price while providing the lender with some protection of profit margin through prices charged for other services.

Option 5. The borrower may substitute mortgage credit for consumer credit. For the approximately 65 percent of credit users who are homeowners, the substitution of mortgage credit for consumer credit is a viable strategy for preserving their interest deduction.⁸ Even following this strategy and holding rates for the two types of credit constant, the cost of credit will increase from the pre-TRA level for most borrowers (see Table 1, bottom panel).

For the 35 percent of credit users who do not own a home, that strategy is not available. But, those consumers are considered less likely to have taken the consumer interest deduction before TRA. Thus, their use of consumer credit is not expected to be significantly affected by tax reform, holding availability constant.

SUBSTITUTION OF MORTGAGE CREDIT FOR CONSUMER CREDIT

The Tax Reform Act will allow homeowners to borrow against some portion of their home equity and deduct interest paid for tax purposes. In this section of the paper the amount of home equity in the portfolios of households that participated in the 1983 survey is analyzed in total and with regard to the breakdown between equity that can be borrowed against with a tax-advantage versus equity that will not generate tax-deductible interest.

⁸In the 1983 Survey of Consumer Finances, 65 percent of households using consumer credit owned (or were purchasing) their principal residence.

Total Equity

The average amount of home equity for households owning their home in 1983 was \$56,133. About 12 percent of households had home equity equal to less than \$15,000 and about one out of five homeowners had home equity which was greater than \$75,000 (Table 3).

For most homeowners and most credit users, equity in their principal residence represented the bulk of their total assets (Table 4). Kane determined that between 1960 and 1970, all but the wealthiest households shifted from financial assets such as savings accounts to real assets. Given the rapid inflation in the value of real assets between 1970 and 1980, it is not surprising to find that in 1983, the bulk of accumulated wealth held by households was held in the form of home equity.

Table 3. Value of Houses Owned and Net Equity in Current Dollars

House value (dollars)		
less than 25,000		9%
25,000-49,999		30
50,000-74,999		25
75,000-99,999		16
100,000-149,999		12
150,000 and more		8
Total		100%
Mean	\$72,238	
Median	\$57,500	
Equity in house		
less than 15,000		12%
15,000-24,999		12
25,000-49,999		33
50,000-74,999		21
75,000 and more		22
Total		100%
Mean	\$56,133	
Median	\$41,261	

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

TABLE 4. Home Equity Relative to Total Assets*

	All Homeowners
0-50%	10.67%
51-75	17.64
76-90	21.29
91-100	49.21
NA	1.18
	100.0%

*Total Assets = Home Equity plus Financial Assets
Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

Real Equity

Estimates based on the 1983 Survey of Consumer Finances indicate that 65 percent of the equity homeowners had was due to home price appreciation since they had bought it, while 35 percent represented the homeowners paid-in equity (real eq-

uity). And credit users do not have a disproportionate share of real equity--the type of equity that can be borrowed against under TRA which generates tax-deductible interest. The distribution of the ratio of real equity to total home equity is essentially the same for consumer credit users as for homeowners in general (Table 5).

TABLE 5. Real Equity Relative to Total Home Equity (1983)

	All homeowners	Homeowners Who Are Consumer Credit Users
0-10%	10.68%	9.78%
11-15	9.47	9.68
16-20	10.93	10.36
21-25	9.93	10.16
26-50	28.57	27.23
51-100	22.76	23.39
>100	2.36	2.69
NA	5.31	6.71
	100.0%	100.0%

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve Board.

Real Equity/Consumer Credit Outstanding

An estimate of ability of consumer credit users to switch to tax-advantaged equity secured credit is provided by the average ratio for each income quintile of the dollar amount of consumer credit outstanding relative to the dollar amount of real equity for each consumer credit user who owned a home (Table 6). The average ratio of credit outstanding relative to real equity in the home increased linearly with income. On average, debt users in the lowest income quintile had \$0.66 cents of consumer credit outstanding for every dollar of real home equity in 1983. In contrast, debt users in the highest income quintile had \$0.98 of consumer credit outstanding for every dollar of real home equity. These data suggest that high-income borrowers who would benefit the most from a shift from consumer credit to mortgage credit (to control the effect of TRA on their cost of credit for consumption purposes) may have less flexibility for making the switch.

TABLE 6. Can Borrowers Switch? Ratio of Consumer Credit/Real Equity

Income Quintile	Mean	Median	Minimum	Maximum
Lowest	.66	.21	-0.09	9.63
Second	.73	.20	-0.69	13.28
Third	.76	.18	-5.93	27.27
Fourth	.87	.30	-43.68	79.13
Highest	.98	.23	-32.11	42.93

Source: 1983 Survey of Consumer Finances, Board of Governors of the Federal Reserve System.

IMPLICATIONS FOR CREDIT MARKETS
AND CONSUMER CREDIT LENDERS

When the tax deduction of consumer interest is fully phased out TRA will, holding other things constant, increase the cost of consumer credit by amounts ranging from 20 percent to 83 percent for borrowers using consumer credit who itemized before TRA. Further, the cost of credit for an estimated 60 percent of consumer credit users will be affected by the change in the tax deductibility of interest. Some probable effect of TRA on consumer credit markets are:

1) The incentive for credit use by formerly high-bracket households has been reduced. The use of high-rate credit by upper-income households will likely decline. Borrowers in the highest income quintile used almost 39 percent of the balances that were revolved on unsecured revolving credit lines (Panel B, Table 7). Therefore, contrary to popular belief, many upper-income households were paying finance charges on credit cards. Given the dramatic TRA-induced increase in their cost of consumer credit, these households are expected to become very rate sensitive and be attracted by competitors in the revolving credit arena that offer lower interest rates on credit card products.

Upper-income consumers were most likely to use credit from banks and credit unions (see panel C, Table 7). As these borrowers reevaluate their use of consumer credit, credit unions (as low-rate lenders) could be in an advantaged position to keep their nonequity secured loan business. The bulk of credit used by upper-income households was auto credit, and the auto manufacturers may be in the best position to win that business with incentive rate programs.

2) Loans for additions and repairs will be more attractive. In the 1983 survey, loans for additions and repairs made up about 10 percent of consumer credit outstanding. As investments in additions or improvements add to the use value of the home, funds borrowed for such purposes generate deductible interest if the home is used for security. The high closing costs of real estate secured loans may have kept some borrowers from using that kind of credit in the past to finance minor additions and repairs. With tax reform one would expect consumers to be more interested in making such expenditures and using equity secured credit for financing those expenditures.

3) The role of financial subsidiaries of manufacturers and retailers as providers of credit is likely to expand. Under TRA, shoppers have less incentive to separate the cost of the durable purchased from the cost of financing. Retailers and manufacturers who have not offered financing programs to their credit customers may be expected to do so.

4) The profitability of bank card portfolios will decline as bank cards appear to be especially vulnerable to the effects of tax reform. There will be tremendous market pressure on rates

as upper-income revolvers search for ways to lower the after-tax cost of credit used. To offset those revenue losses, lenders may have to raise fees to the merchant, raise fees to non-revolvers, or reduce the risk of customers represented in their portfolios.

TABLE 7. Distributions of Type of Credit Used by Household Income

A. Type of Credit Used by Income Quintile					
	Income Quintile				
	Lowest	Second	Third	Fourth	Highest
Additions					
& Repairs	9.53%	6.05%	8.67%	14.70%	11.05%
Car Loans	47.91	64.66	64.05	63.74	57.37
Other Loans	30.33	18.41	13.53	9.78	20.94
Revolving Credit	<u>12.23</u>	<u>10.88</u>	<u>13.75</u>	<u>11.78</u>	<u>10.64</u>
	100.00	100.00	100.00	100.00	100.00
B. Credit Outstanding Across Income Quintile					
Additions					
& Repairs	3.3	6.2	13.5	34.4	42.6
Car Loans	30.0	11.9	18.1	26.9	40.0
Other Loans	6.9	12.2	13.7	14.9	52.4
Revolving Credit	4.1	10.5	20.3	26.2	38.9
Total	3.8	11.1	17.1	25.7	42.3
C. Credit Sources By Income Quintile					
Commercial Banks	16.5	24.9	20.5	20.5	23.5
Savings Institutions	3.7	1.8	5.8	5.6	4.3
Credit Unions	9.8	7.0	9.5	16.6	15.8
Small Loan Companies	6.2	3.3	4.3	7.4	2.8
Auto Finance Companies	11.7	19.5	16.0	10.0	9.3
Dealer/Store	34.2	31.0	31.6	23.8	20.4
Other	<u>17.9</u>	<u>12.5</u>	<u>12.1</u>	<u>16.0</u>	<u>23.9</u>
	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 1983 Survey of Consumer Finances, Board of Governors of Federal Reserve System.

5) The substitution of mortgage credit for consumer credit is likely to narrow the geographic scope of the relevant market for consumer credit. The bank credit card, one of the most popular consumer credit products in recent years, was offered by lenders competing in a national market. However, the home equity loan is a product produced in a local market setting. Understanding local market conditions is a key to making profitable equity secured loans and local market lenders generally serve the needs of consumers borrowing against their home equity. Thus, TRA may have the likely effect of increasing the dispersion in prices of credit across markets and limiting the availability of credit at competitive rates for some borrowers (in small local markets).

6) Credit information may become more proprietary. Once a consumer gets a line of credit secured by home equity, he or she will engage in less credit shopping. Instead of applying for different loans as needs arise, the consumer simply draws down the line when it is needed.

The lender, being in a secured position, may base the credit decision on the value of the house relative to the balance on the line, eliminating the need for a credit report. The number of credit reports requested in an individual's lifetime would be expected to fall sharply a factor which could dramatically influence the cost of credit information.

7) Consumers will have more incentives to consolidate their financial relationships. Lenders who price credit services according to the total nature of the relationship the borrower has with the lender will provide consumers a strong incentive to consolidate their financial accounts with one lender.

8) Those lenders serving low-income consumers and renters can expect little impact from TRA. Lenders making second mortgage or equity secured loans should benefit from TRA.

4. Kane, Edward. Accelerating Inflation and the Distribution of Household Savings Incentives. Working Paper No. 30, Credit Research Center, Purdue University, 1979.
5. Sullivan, A. Charlene, and Worden, Debra Drecnik. Economic and Demographic Factors Associated With Consumer Debt Use. Working Paper No. 52, Credit Research Center, Purdue University, 1987.
6. Sullivan, A. Charlene. Liquid Assets and Consumer Credit on the Household Balance Sheet. Working Paper No. 53, Credit Research Center, Purdue University, 1987.
7. Worden, Debra Drecnik, and Sullivan, A. Charlene. Shopping for Consumer Credit: Implications for Market Efficiency. Working Paper No. 54, Credit Research Center, Purdue University, 1987.

CONCLUSIONS

The higher the household tax bracket (before the enactment of the Tax Reform Act of 1986), the more significant the effect on the cost of consumer credit of the change in the tax treatment of consumer interest for those households that itemized deductions. Survey data provide evidence that approximately 60 percent of credit outstanding in 1983 was used by households that itemized deductions for tax purposes.

Given the phase-in of the new provisions, the changes to the market may not come swiftly. But this analysis of the data supports the view that the changes will be significant. Lenders who will not be affected are those who serve low-income consumers and renters. Lenders who have concentrated on second mortgage and equity secured loans are in a better position relative to other types of lenders. The most dramatic changes will be in the market for revolving credit--high-rate credit used heavily by high-income households. New pricing and market segmentation strategies will probably be necessary to maintain the attractiveness of the product for those households.

References

1. Dunkelberg, William C., and Worden, Debra Drecnik. "The Quality of Consumer Credit," School of Management, Purdue University, 1986, photocopy.
2. Durkin, Thomas A., and Elliehausen, Gregory E. 1977 Consumer Credit Survey. Board of Governors of the Federal Reserve System, Publications Services, Washington, D.C., 1977.
3. Hendershott, Patric H., Follain, James R., and Ling, David C. Real Estate and the Tax Reform Act of 1986. ORER Paper No. 35, Office of Real Estate Research, University of Illinois, 1986.

LIFE CYCLE EFFECTS OF THE COSTS OF RAISING CHILDREN

Joanne M. Fedyk, The University of Saskatchewan,
Robin A. Douthitt, University of Wisconsin-Madison

ABSTRACT

The authors examined Canadian expenditure data to examine the effects of children on family spending behaviour. Results indicate that durables, food eaten (purchased) away from home, and adult clothing are luxury goods for the two-child family. Economies to scale are noted for food and shelter expenditures. Two-child families appear to substitute out of expenditures for meals eaten away from home, adult clothing and other goods and services in order to meet increased demand due to the presence of children.

INTRODUCTION

The purpose of this paper is to examine the influence of life cycle changes in family composition on direct expenditure. Specifically, we are concerned with how the presence of children influences consumption decisions by the family at different stages of the life cycle. In sum this research makes four contributions to the literature. The first contribution relates to the characteristics of the specific empirical model chosen for the analysis, the second relates to analysis of the relationship between family composition and expenditure decisions, the third relates to use of recent expenditure data and fourth relates to operationalization of data.

Findings are based on results from an empirical model that incorporates both continuous measures of adult equivalence and a flexible functional form. In the study a revealed preference approach using continuous household size and structure variables is adopted. Although revealed preference is a common approach for deriving equivalency measures found in the consumer demand literature², few studies also incorporate a continuous (versus stepwise discrete) approach to measure the effects of family size and structure on spending behavior³. Friedman (1957) first developed the concept of a continuous equivalence scale measure. Its strengths include continuity over size or age range measures (i.e., scales do not "jump" between adjacent age categories) and fewer required parameters for estimation. No studies in the consumer demand literature whose purpose is to explicitly measure the costs of raising children have used continuous scales. The present study incorporates a model which assures the theoretical restrictions of adding-up while allowing for nonhomogeneous demand functions and economies of scale. Thus, the model provides an effective balance between the concern for theoretical plausibility and the practical need to explain variance in the data.

¹Assistant Professors of Family Economics. We gratefully acknowledge financial support for this project from the Social Sciences and Humanities Research Council, Canada, and our respective Universities.

An additional contribution of this work is that more recent expenditure data is used in the analysis than have been used in previous studies. The data used in the analysis are taken from the 1982 Canadian Family Expenditure Survey (FES). Lazear and Michael (1980) use the 1960-61 Survey of Consumer Expenditures, while Olson (1983), Espenshade (1984), and van der Gaag and Smolensky (1982) all use the 1972-73 Consumer Expenditure Survey. Although Espenshade (1984) applies the CPI to update expenditures to 1981 dollars, such an approach can potentially bias the results. This study will use more recent expenditure data, thus enhancing external validity of the empirical findings.

The final contribution of this study is to give particular attention in defining expenditure categories. Most researchers simply use the aggregate expenditure categories defined by the collection agency (Bureau of Labor Statistics or Statistics Canada) as their expenditure categories. There are at least two problems with this approach. First, certain expenditure categories include outlays for such durable goods as automobiles. Thus, for example, when a child is added to a household and fewer new cars are purchased, it appears that expenditures for transportation decrease. This phenomenon can also result in researchers erroneously concluding that there exist economies of scale associated with the effects of children on transportation expenditures.

The second problem with using the most aggregate of expenditure categories for deriving estimates of the cost of raising children is that the potential for measuring substitutions between adult and child goods is lost. The present analysis addresses such problems.

The remainder of the paper is organized as follows. First an exposition of the model used in the analysis is presented. Next, we present a description of the data and procedures used in the final analysis. Finally, results are presented followed by some summary remarks.

MODEL

The economic model used in this analysis is the multinomial logit⁴ budget allocation model (MLBAM) developed by Tyrrell in 1979. The MLBAM is expressed in the logistic form of the budget shares, thus assuring the adding-up property when a complete system is estimated (i.e., assuring the budget shares will sum to one). Since the

⁴Due to space limitations we were unable to include a complete exposition of the model. A fuller version of the paper is available from the authors upon request.

data used in this research are cross-sectional, prices are assumed constant, and thus drop out of the model.

MLBAM also incorporates a continuous equivalence scale which varies with age in order to capture the effects of household characteristics on family expenditures. Household characteristics include size of the family and its composition (age of family members). Departing from the usual method of specifying a separate equivalence coefficient for each age-sex group and adding these together to get the equivalence scale, the MLBAM follows Forsyth (1960) and specifies equivalent family size as the product of household size and a composition term for each good.

MLBAM also distinguishes between size effects-- the effects on consumption due to the addition of a family member regardless of the type of person (such as the increase in the demand for necessities like food and clothing)-- and composition effects-- the effects on consumption due to the addition of a specific type of family member (like the purchase of a crib for an infant).

To summarize the characteristics of the MLBAM model, MLBAM satisfies the Engel and Cournot aggregation constraints (it can also be constrained locally to satisfy homogeneity and Slutsky symmetry conditions). It relates commodity expenditures to a nonhomogeneous function of total expenditures and household size thereby allowing for economies and diseconomies of scale. In addition, it allows examination of the effect on commodity expenditures of adding a certain type of person to a specifically defined family type. Since such effects may vary according to the characteristics of other household members, MLBAM's measure of the influence of family composition on family expenditures does not strictly belong in to the Engel "class" of equivalence scales. However, it is the authors opinion that trading off these theoretical considerations yields important utilitarian value in answering applied questions regarding the effects of children on family expenditures.

The model is estimated using an iterative Newton-Raphson (maximum likelihood) procedure. Identification of the system is achieved by setting the parameters of one equation equal to zero. Results are thus interpreted as being compared to the omitted category. Expenditures for "other goods" is the excluded equation.

DATA AND PROCEDURES

The data used in this study were collected as part of Statistics Canada's 1982 Survey of Family Expenditures. They include both expenditure and demographic information collected from a random sample of over 10,000 Canadian households. The scope of the study was limited in several respects because Statistics Canada did not release the entire survey for public use. For example, gender of children in a family was not

revealed, meaning that the differences in costs and expenditures between male and female children which have been shown to exist (Olson, 1983) could not be examined.

In order to minimize the effects of regional price differences, we limited our analysis to a sample of Prairie (provinces of Alberta, Saskatchewan and Manitoba) families. Our final sample consisted of 758 non-farm, double-headed families with all members present the entire year who did not receive income-tested government assistance in 1982. Mean sample characteristics are given in Table 1.

TABLE 1. Mean Sample Characteristics.

Mean ages:		
Head ¹	41.2	years
Spouse	39.0	years
First Child ²	10.3	years
Second Child ²	8.1	years
Mean family size	3.3	
Mean number of children ³	2.1	
Median gross family income	\$ 38,025	
Median total expenditures	\$ 34,757	
Mean expenditures on:		Percent of total income:
Food at home	\$3861	10.2
Food away from home ..	1190	3.1
Shelter	6231	16.4
Clothing	2381	6.3
Transportation	4343	11.4

¹Head is male in 90% of families.

²Where present.

³Families with children present.

When defining expenditure categories to be used in this analysis we gave particular attention to two points. First we attempted, when possible to separate categories of spending into adult and child specific commodities or into groups that we believed could be influenced by the presence of children. Thus, we separated clothing expenditures into adult and child specific groups.

Secondly, we attempted to remove any element of savings in the form of durable purchases from expenditure categories. The expenditure category reported in this study most influenced by this decision was transportation. Using this definition, purchase of automobiles was netted away from transportation expenditures. Other outlays affected by this definition include expenditures for recreational vehicles and purchase of major home appliances. These outlays were combined into the collective expenditure category, durables.

The dependent variables in the system are budget shares for each of eight spending categories. These categories include (1) food eaten at home, (2) food eaten away from home, (3) shelter (not payments on mortgage principle), (4) transportation, (5) adult clothing, (6) child clothing, (7) durables (vehicle purchase, household furnishings, recreation equipment), and (8) other (household operation, health care,

personal care, recreation, education, tobacco and alcohol, gifts, security, & miscellaneous). Independent variables include total expenditures, family size and a transformation of the age of each family member.

From parameter estimates derived from MLBAM we are able to simulate expenditures over the lifecycle. For illustrative purposes we have developed some simulations for an "average" prairie family. The average family was identified by using provincial statistics regarding prairie family economic, fertility and marriage behaviour (See Table 2 for details).

TABLE 2. Average Prairie Family Characteristics.

Age at first marriage (1982): ¹	
Males	25.7 years
Females	23.3 years
Median age	
at first birth (1982): ²	24.6 years
Median age	
at second birth (1982): ²	27.1 years
Average number of children	
per family with children (1976): ³	2.2
Gross income by age of head (1982): ⁴	
<u>Age In Years</u>	<u>Income</u>
Under 24	\$24,224
25-34	32,397
35-44	40,199
45-54	43,955
55-64	37,260

¹Source: Statistics Canada, Marriages and Divorces: Vital Statistics, Volume 2, Catalogue # 84205, 1982.

²Source: Statistics Canada, Vital Statistics, Catalogue #84-204 and #84-001. These figures are for all of Canada.

³Source: Farquhar, C.R. (1982) Handbook of Canadian Consumer Markets, 1982, 2nd Ed., Ottawa: The Conference Board of Canada, p. 47.

⁴Source: Statistics Canada, Income Distribution by Size in Canada, Catalogue # 13207, 1982.

Predicted budget shares are generated for each year with every family member aging accordingly. Total expenditures are assumed to change throughout the family life cycle according to trends observed with respect to family income by age of head for the population in 1982.

Because the oldest child in the sample is 18 years of age, children in the present analysis are assumed to leave home after age 18. Simulations are performed for two child families, since average family size for prairie couples with children is 2.2. Consistent with the population trends, we assume that the first child is born when the mother is 25 and the father is 28 and the second child is born two years later.

As a point of comparison, we also simulate the expenditures of a childless couple with the same demographic characteristics and who marry at the same age as the childed couple. The difference between these two estimates will allow us to examine the effects of children on family expenditures.

RESULTS

Simulations for both childless and two child families were conducted to predict budget shares for the expenditure system. Figures 1-10 present graphical representations of the trends in family spending (budget shares) over the life cycle.

In addition to analysis of budget shares, we were interested in examining elasticities imputed from the estimated model parameters. For illustrative purposes we selected an average point in the family life cycle and derived sample elasticity estimates. Average family's characteristics and elasticity estimates are reported in Tables 3 and 4, respectively for each expenditure category.

Table 3 shows the predicted values for each expenditure category for an average two child family. The "average" family in the sample reports total expenditures of \$31,200, of which 14 percent (\$4,337) is allocated to food eaten at home, and 3 percent (\$936) is spent on food eaten in restaurants. The figure for shelter expenditures, 19 percent, may seem intuitively low, but it represents spending on shelter that does not include payments toward mortgage principle. Such payments are not considered in the Family Expenditure Survey to be an element of spending, but rather a contribution to the family's assets, or savings.

TABLE 3. Predicted Budget Shares for Two-child Family

FAMILY PROFILE:		
	Total expenditures: \$31,200	
	Age of father: 39 years	
	Age of mother: 36 years	
	Age of first child: 11 years	
	Age of second child: 8 years	
PREDICTED EXPENDITURES:		
		% of budget
FOOD AT HOME	\$ 4337	13.9%
FOOD AWAY FROM HOME	936	3.0
SHELTER	6022	19.3
TRANSPORTATION	2309	7.4
DURABLES	2558	8.2
ADULT CLOTHING	1373	4.4
CHILD CLOTHING	562	1.8
OTHER GOODS/SERVICES	13,104	42.0

The average family in this sample is predicted to spend \$2309 per year on transportation, which does not include the purchase of vehicles. Automobile purchase is included in the durables category, which along with household furnishings and appliances, and recreation equipment, makes up about 8 percent of the average family's spending. Adult clothing comprises more than twice the proportion of the budget than child clothing, while the largest portion of total expenditures is allocated toward other goods and services.

Food. Figures 1 and 2 present the effect of changes in food expenditures at home and away, over the life cycle by childless and two-child families. Budget shares of childless couples for both food eaten at and away from home remains

fairly constant across the life cycle with about one third of the total food budget being devoted to food eaten away from home. Two-child families record drops in shares of food eaten away in both years that children are born. Not until the last child leaves home does the share level for this category of spending equal that of their childless counterparts. The two-child family devotes approximately one fifth of their total food budget to food eaten away from home. Their expenditures for food eaten away from home are nearly 50 percent greater than that of their childless counterparts. Clearly, households tend to substitute out of food eaten at home and increase food eaten at home in order to meet increasing (family size) demands for food. In sum children cause the total food share to increase by approximately 3 percent.

Table 4 indicates that expenditures for food eaten away from home by an average family constitutes luxury spending (expenditure elasticity > 1). Demand for food eaten at home however, is highly expenditure inelastic or a necessity item. Although expenditures for food eaten at home are positively related to family size, expenditures for food away from home bears a negative relationship with family size, ceteris paribus. Results further indicate that small economies to scale exist for expenditures for both food eaten at and away from home.

Clothing. Figures 3 and 4 present the effect of changes in expenditures for adult and child clothing over the life cycle by childless and two-child families. Expenditures by childless couples are fairly constant over the life cycle. Childless couples do record small expenditures (budget shares less than one percent) for children's clothing.

For the two-child family, adult clothing expenditure shares bottom out in the year that the youngest child is two years of age. After that year, spending for adult clothing as a share of total expenditures increases. At approximately the point where the oldest child reaches thirteen years of age, budget share for adult clothing exceeds that of the the share of expenditures devoted by childless couples to adult clothing. This result can be attributed to the fact that purchases of clothing for family members over the age of thirteen are categorized in the FES as adult clothing expenditures.

The share of expenditures for children's clothing peaks for the two-child family when the youngest child reaches about 6 years of age. After that point expenditures for children's clothing gradually diminishes as the youngest child approaches 13 years of age. Beyond age 40 of the adult male, it is necessary to examine the effects of family size on spending for adult clothing to better understand the effects of children on clothing expenditures.

Compared to their childless counterparts, two-child families spend more for all clothing beginning when their oldest child reaches six years of age. Expenditures peak when the oldest

child reaches eighteen years of age with the two-child family allocating about two and one half percent greater budget share to clothing purchases than their childless counterparts.

In the early years it does appear that there are some substitutions out of spending for adult clothing in order to meet the increasing demand for child's clothing. Latter such "sacrifices" by parents are more difficult to isolate as children's clothing expenditures commingle with that of their parents.

Table 4 indicates that for the average family, outlays for children's clothing constitutes a necessity expenditure, while adult clothing expenditures a luxury (expenditure elasticity > 1). Given that the oldest child in the average family is eleven years of age and maybe wearing adult size clothing, we observe a positive relationship between family size and both adult and child clothing expenditures. Contrary to previous findings, we find that there are diseconomies of scale associated with clothing expenditures.

Shelter. Figure 5 presents the effect of changes in housing expenditures over the life cycle by childless and two-child families. Given that this category of expenditure excludes outlays for mortgage principle, it is not surprising to find that budget shares decline over time. Without additional information regarding the propensity of childless versus two-child couples to purchase (versus rent) their living quarters, it is difficult to posit precise causes of the observed differences. Common reasoning would lead the one to posit that the two-child family would own a larger and thus more costly home than their childless counterpart. Although this is apparently the trend early in the life cycle, beyond age thirty-nine of the adult male the trend reverses and the two-child family spends a smaller share of total expenditures for housing than do their childless counterparts.

Table 4 indicates that housing is relatively expenditure inelastic, or a necessity outlay. Family size appears negatively related to spending for shelter and the presence of economies of scale is noted.

Transportation. Figure 6 presents the effect of changes in transportation expenditures over the life cycle by childless and two-child families. As was previously discussed, the definition of this expenditure category is different from previous studies in that outlays for the purchase of automobiles is netted from there and added to a new category, durables. Thus, the expenditures in this category pertain primarily to auto repairs, and outlays for other forms of transportation.

Expenditures for the childless couple remain fairly constant over the life cycle. The budget share devoted to transportation by the two-child family is only slightly greater than that of their childless counterparts until the first child approaches sixteen years of age. At that

TABLE 4. Elasticities and Predicted Budget Shares for Average Family.

	Food		Shelter	Transportation	Durables	Clothing		Other
	Home	Away				Adult	Child	
Budget Shares: Average Family ¹	.14	.03	.19	.07	.08	.04	.02	.42
Expenditure Elasticity: Size	0.30	1.21	0.80	0.75	1.63	1.12	0.45	1.24
Elasticity: Scale ²	0.53	-0.41	-0.32	0.33	0.20	0.62	1.53	-0.23
Indicator:	0.83 (E)	0.80 (E)	0.48 (E)	1.07 (C)	1.83 (D)	1.74 (D)	1.98 (D)	1.01 (C)

¹Average Family = Head aged 39, spouse aged 36, oldest child aged 11, youngest child aged 8, total expenditure = \$31,200.

²E Indicates economies of scale, C Indicates constant returns to scale, D Indicates diseconomies of scale.

Fig. 1 BUDGET SHARES: FOOD AT HOME

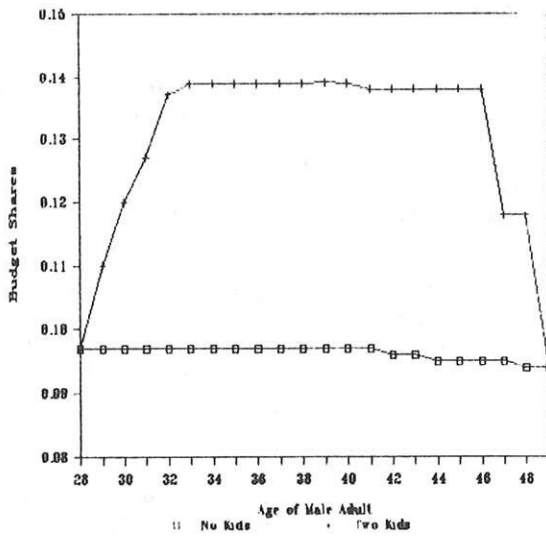


Fig. 3 BUDGET SHARES: ADULT CLOTHING

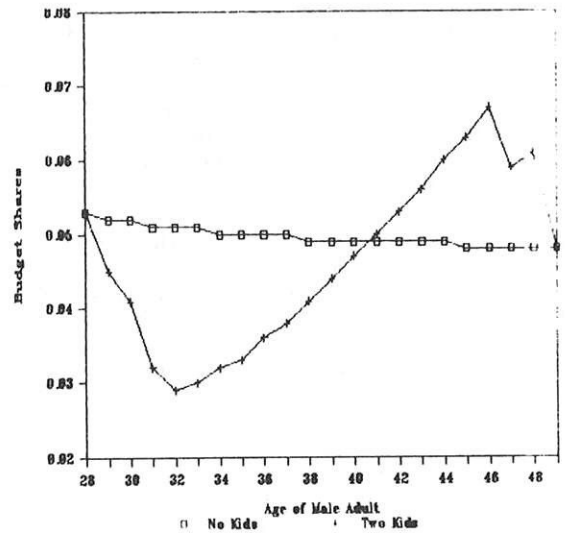


Fig. 2 BUDGET SHARES: FOOD AWAY

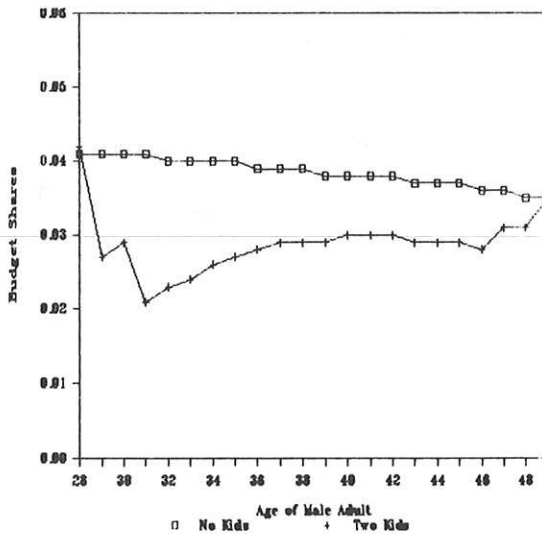


Fig. 4 BUDGET SHARES: CHILD CLOTHING

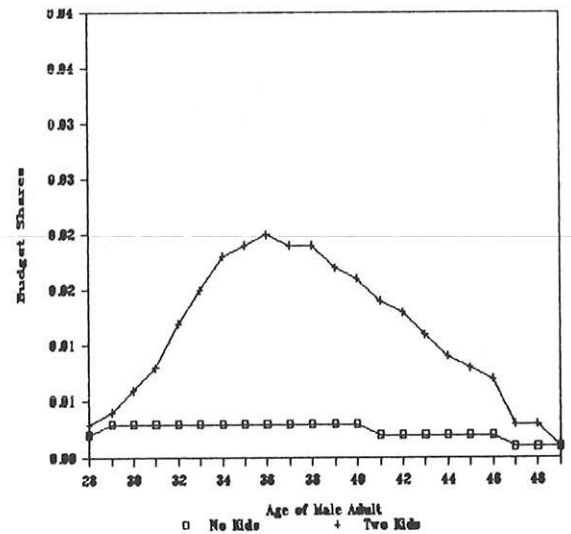


Fig. 5 BUDGET SHARES: HOUSING

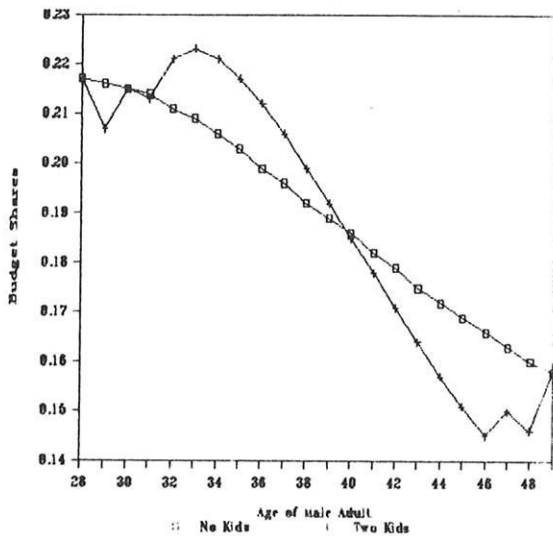


Fig. 7 BUDGET SHARES: DURABLES

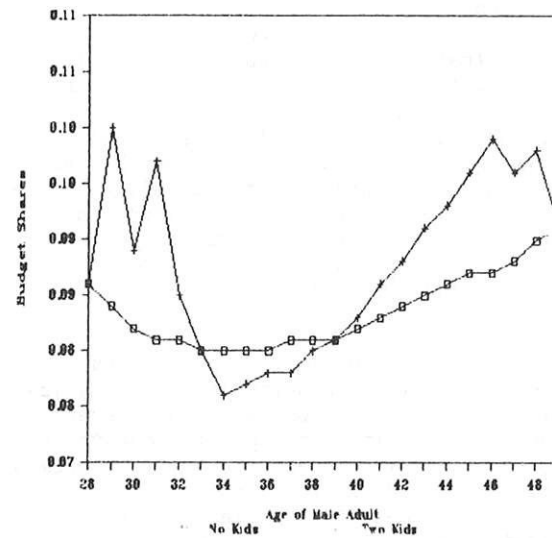
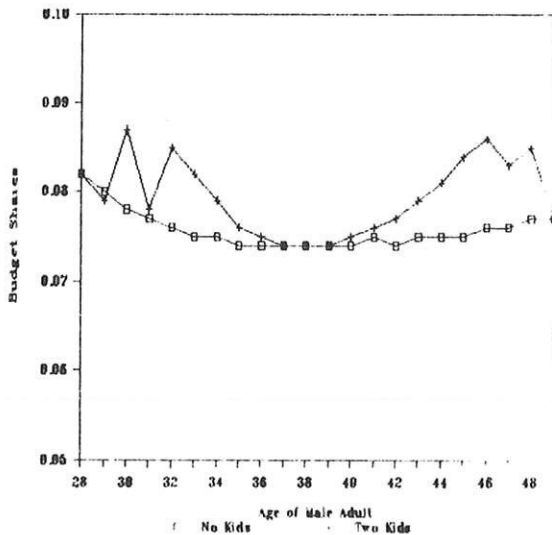


Fig. 6 BUDGET SHARES: TRANSPORTATION



Childless couples appear to make outlays for durables at a fairly constant share of total expenditures over the life cycle. Peaks in the budget shares for the two-child family occurs in each year where a child is born and at the stage in the life cycle where children reach driving age. One can easily speculate the nature of spending behaviour that would cause these differences.

Table 4 indicates that durables constitute luxury (expenditure elasticity > 1) goods by the average two-child family. A small positive relationship between size and durable outlays is noted. Diseconomies to scale are indicated (scale indicator > 1).

SUMMARY and CAVEATS

The purpose of this paper was to incorporate a flexible functional form of an expenditure model to examine expenditures attributable to the presence of children. Findings indicate not only how family composition influences spending over the life cycle, but also ways in which families make substitutions in consumption to meet those costs.

There are at least two important limitations to the results presented in this study. The first limitation pertains to the use of cross-sectional data to draw inferences about longitudinal behaviour. The FES data were collected in a single time period. We implicitly assume in our findings that couples in their 20's today will behave in 10 years the way 30 year old couples do today. That is we assume away any potential cohort effects. However, given that to date no one has collected detailed expenditure, panel data that would span over any single family lifecycle, consumer expenditure studies with their inherent limitations afford the best insight possible into family spending behaviour.

Table 4 indicates that transportation expenditures are necessity outlays and that they increase with family size. Overall, constant returns to scale are indicated. These results compare to a virtual null size effect and diseconomies to scale reported by Tyrrell when elements of durable spending were included in the variable definition.

Durables. Figure 7 presents the effect of changes in durable expenditures over the life cycle by childless and two-child families. As was discussed earlier, the durable category is a composite of expenditures that we have identified as having an element of savings. Previous studies included these outlays as part of other expenditure categories.

The next important limitation of this study is the underlying population that we are able to make inferences about. Our sample in this study includes middle- to upper-income families living in the central region of Canada. We intentionally removed any low-income families from the sample that we assumed could be qualified for or receiving income tested social assistance payments. Each province in Canada establishes guidelines for estimated costs to raise children at a poverty level income. Our purpose was to provide guidelines for upper- to middle-income families regarding child rearing costs. At present no such standards have been established in Canada.

Keeping both of these limitations in mind then, the highlights of our results can be summarized as follows. Durables, food eaten (purchased) away from home, and adult clothing all prove to be luxury goods for the two-child family. Economies to scale are noted for food and shelter expenditures. Two-child families appear to substitute out of expenditures for meals eaten away from home, adult clothing and other goods and services in order to meet increased demand due to the presence of children.

REFERENCES

- Deaton, A., and Muellbauer, J. (1980). Economics and Consumer Behavior. Cambridge: Cambridge University Press.
- Espenshade, T.J. (1984). Investing in Children. Washington, D.C.: The Urban Institute.
- Fedyk, J.M. (1986). An Application of the Multinomial Logit Budget Allocation Model to the Costs of Raising Children on the Prairies. Masters Thesis. University of Saskatchewan, College of Home Economics.
- Forsyth, F.G. (1960). The relationship between family size and family expenditure. Royal Statistical Society Journal Series A, 123, 367-393.
- Friedman, M. (1957). A Theory of the Consumption Function. Princeton: Princeton University Press.
- Lazear, F.P., Michael, R.T. (1980). Family size and the distribution of real per capita income. American Economic Review, 70, 91-107.
- Olson, L. (1983). Costs of Children. Toronto: Lexington Books.
- Tyrrell, T.J. (1979). An application of the multinomial logit model to predicting the pattern of food and other household expenditures in the Northeastern United States. Doctoral dissertation, Cornell University.
- Van der Gaag, J., Smolensky, E. (1982). True household equivalence scales and characteristics of the poor in the United States. Review of Income and Wealth, 28, 17-28.

FINANCIAL SECURITY OF DIVORCED WOMEN: ASSETS VERSUS INCOME

Kathryn Stafford, The Ohio State University¹
E. Golden Jackson, The Ohio State University²
Sharon L. Burgess, The Ohio State University²

ABSTRACT

The probability of a woman's being awarded principal residence, cash, alimony, or child support was estimated for a sample of 914 randomly selected Ohio divorce cases. Investment in marriage and contentiousness significantly affected awards. Presiding judge had the largest effect. Judges favored awarding residence and child support over cash and alimony.

The financial consequences of divorce are of interest for several reasons. One reason is that since 1977, in each year the number of divorces has been approximately equal to half the number of marriages [5]. Another is that divorce reduces the financial well-being of many women and children by almost half. The final reason is the issue of gender bias in the American legal system. This paper reports initial analyses of the effect of property and asset disposition on the financial security of divorced women in Ohio during 1985. The analysis identifies resources and procedural steps which increase the probability of women's receiving either assets or income in divorce decrees.

The 1983 divorce rate for the U.S. and Ohio was 5.0 per 1000 population, with rates for the three central Ohio counties in this study ranging from 5.5 to 6.4 [9]. This phenomenon is not new. With the exception of a decade from 1948-1958, the U.S. divorce rate rose steadily from 1900 to 1980 [5]. The increase in divorces has been created, in part, by a confluence of three social changes. First, the social sanctions against divorce have been relaxed. In addition, expectations of emotional support from the spouse have risen to a level some believe is unrealistic. Finally, more women have become financially independent [10].

Another reason for interest is the deleterious financial effects of divorce on women and children. The reduced post-divorce income and financial well-being of women and children has been noted by many researchers [3, 1, 4, 14, 8, 2, 11]. In comparing the socioeconomic characteristics of married and divorced women aged 30-44, Mott [8] found that those who were married with husband present had a higher mean family income than all other groups for both blacks and whites. For both racial groups the mean family income for divorced women was just over half that of married women with husband present. According to the Panel Study of Income Dynamics at the University of Michigan, divorce

resulted in reduced by income for women in every income category; however, the decrease was greatest (about one-half) for the upper income group. For women from middle income households, income was reduced about one-third, and for lower income women, the reduction was about one-fourth [12].

As a reflection of the effort to eliminate gender bias in laws and of increased acceptance of divorce by society, legislatures changed laws pertaining to divorce and courts began changing their interpretations of those laws during the 1970's. The changes provided for easier dissolution of marriage. Consequently, the process became shorter, less complex, and less costly [1, 14]. Ohio was no exception. Its provision for dissolutions as well as divorces facilitates amicable dissolving of marriage. Dissolution of a marriage requires the parties to write a separation agreement dividing property and specifying alimony, child custody and support, and visitation, and to appear in court to acknowledge their voluntary participation in the action. A divorce action implies a more adversarial stance, with one party initiating the action on one or more of the following grounds: another living spouse, willful absence for one year, adultery, impotency, cruelty, gross neglect of duty, drunkenness, imprisonment, or living apart for one year.

Patterns of Asset and Income Awards

Previous research on divorce decrees has distinguished between assets and income for practical as well as legal reasons. Assets are capital stock; whereas, income refers to a flow of resources. Partially as a result of the inherent differences between capital stocks and flows, the certainty of receipt differs for assets and income. Finally, the moral and legal arguments for entitlement to assets and entitlement to income differ.

Asset awards take the form of real property and cash while income awards are primarily alimony and child support. Most divorces occur among young and lower income couples who have little property. For example, Weitzman [13] found that about one-half of the couples in her study had less than \$11,000 in property at the time of divorce. Further, the median value of shared property for low and middle income couples is typically equal to only 25 percent of annual income.

The family home is the most valuable real asset of most couples. The importance of the principal

¹Associate Professor of Family Resource Management

²Assistant Professor of Family Resource Management

residence varies by income. It's most important for middle income families, and less so for upper income families who typically have many assets and for lower income families who are not likely to own a home. Court records sampled for this study showed a homeownership rate of 43.6 percent in the three central Ohio counties. This compares to 32 percent of divorce records listing a family home as an asset in a 1978 California study by Weitzman [14].

Disposition of the principal residence may take a number of forms. The residence may be awarded to wife, awarded to husband, or awarded to both. If the residence is awarded to both a sale can be forced and the division of equity stipulated. Weitzman [13] found that a majority of the home equity was awarded to the wife in 46 percent of the cases and was equally divided in another 35 percent of the cases in 1977. In this study, the house was awarded to the wife in 38.4 percent of the cases and to the husband 34.7 percent of the time. Wives not awarded the house also received some benefit from the asset: 10.1 percent of the women were awarded joint ownership; and in 15.3 percent of the cases the house was ordered to be sold and the proceeds divided.

Assets may also be awarded in the form of a cash settlement. Landes [6] found that the number of minor children and duration of marriage were positively associated with cash awards sometimes called lump-sum alimony. In this study, cash was awarded to women in 7.9 percent of the cases.

Weitzman [13] argues that income awards are more valuable than property or one-time cash settlements. Her rationale is that the real wealth of most divorcing couples lies in future income, and continuing income awards capture that wealth. On the other hand, Weitzman [13] believes that many attorneys advise clients to take a property settlement because support payments may be changed and are difficult to collect. Women who divorce in the early years of marriage must rely primarily on alimony and child support for future financial well-being as a result of the marriage. However, they may also be the ones for whom the income support is negligible or nonexistent.

For all women, receipt of an income stream in the form of alimony is a potential award. The basis for alimony awards has changed over time. Alimony is more likely to be short term rather than permanent, and wives with employment skills are not likely to be awarded alimony. In addition, fault is no longer the primary rationale for alimony. Rather, need for support has become a more important consideration. Need has been linked legally to physical and emotional condition, age, presence of young children, and education. Length of marriage, a correlate of contribution to marriage, is another criterion used today. Historically, alimony has been awarded to only a small proportion of women. For example, Weitzman [13] found 17 percent of women were awarded alimony in her 1977 study. In comparison, 9.7 percent were granted alimony in the present study.

If minor children are present, child support is a relevant income award. Amounts awarded for the support of children are likely to be low. In a 1983 New Jersey study, the typical award was a maximum of thirty percent of the father's net income, and a study in Cleveland showed support to be about twenty percent of the father's income [13]. Although amount of support is not included in this analysis, the incidence of child support awards was limited. Child support was decreed in only 51.9 percent of the cases with children under age eighteen.

Sample

Data on divorces in Ohio in 1985 were obtained from county court records in an urban county and two rural counties. A ten percent random sample of cases filed was drawn in the urban county, resulting in 390 decree-of-divorce and 280 dissolution agreement records, of which 661 were usable records. In the rural counties the sample size equaled fifty percent of all filings. Of the 300 cases, 47 were not usable. Divorce and dissolution cases were not filed separately in the rural counties; thus, the samples were not drawn separately.

Divorce records contained names and addresses of husband and wife; names and ages of children; name(s) of attorney(s) for husband and/or wife; name of judge; dates of marriage, filing and decree; all documents filed in the case such as motions and the separation agreement; and decree. The decree specified income and asset awards. The records did not contain information on income, age, education, occupation, or employment status.

The average length of marriage was five years; the median length was 8.19 years. Divorcing couples had an average of two children and a median of 1.7.

Wives were represented by attorneys in 73 percent of the cases. Wives were granted the divorce 38.9 percent of the time; husbands were granted the divorce in 12.7 percent of the cases. The remainder of the cases were dissolutions in which the divorce was granted to both. Case records were an average of 16 pages in length, with a median of 23.4 pages.

The 914 cases in the sample, of which 72.3 percent were from an urban county, were heard by twelve judges. Six of the judges heard only 3.4 percent of the cases; these six judges were pooled to form a control group. The other six judges each heard between 10.6 and 22.6 percent of the cases.

Variables

Two indicators of asset awards and two indicators of income awards were constructed from data in the court records. The asset indicators were disposition of residence and cash settlement. If the couple owned at least one residence the

disposition of the principal residence upon divorce was included in the analysis. The residence could have been: 1) sold and the net proceeds divided, 2) awarded to the wife, 3) awarded to the husband, 4) awarded to both, 5) undecided, or 6) other. The decrees in several cases postponed the decision about disposition of the house; these were coded "undecided." The decrees in several cases stated that each spouse was to retain current ownership; these were coded "other." For this analysis residence award was coded zero if the man received the residence; otherwise it was coded one. Cases coded "undecided" or "other" were omitted from the analysis of residence award. If the divorce decree awarded cash to the woman immediately, rather than periodically, cash settlement was coded one; otherwise it was coded zero.

The indicators of income awarded were alimony and child support. If the divorce decree awarded alimony to the woman alimony award was coded one. If the decree awarded alimony to the husband or awarded no alimony, alimony award was coded zero. If the family had children and the divorce decree awarded child support to the woman, child support award was coded one. If the decree awarded child support to the husband or no support, child support award was coded zero. If the decree failed to mention either alimony or child support the authors assumed the woman was awarded neither.

The probability of receiving assets and income was expected to increase with investment in the marriage. The court records contained two measures of investment in the marriage -- length of marriage and number of children. Length of marriage was defined as year of filing for divorce minus year of marriage. Number of children was defined as number of minor boys plus number of minor girls. In Ohio children are legally emancipated at eighteen.

Contentiousness of the proceedings was expected to affect the award of assets and income. A higher probability of receiving income or assets was expected to accompany dissolutions, considered to be more amicable than divorces. However, when the proceedings were not amicable, as was assumed for divorces, the probability of a woman's being awarded income or assets was expected to increase with contentiousness. The number of pages in the court record was used as a measure of contentiousness, with longer records considered more contentious.

Guilt also was expected to influence the award of assets and income. Women judged less guilty than their spouses or not guilty were expected to have a higher probability of receiving assets and income. The court records stated to whom the divorce was granted. If the woman were granted the divorce rather than her spouse, the researchers assumed she was the less guilty party. In Ohio dissolution decrees are granted to both parties, and can be considered no fault proceedings.

The more resources the woman used to obtain the decree the greater her probability of being awarded assets and income was expected to be. The court records stated whether the woman was represented by an attorney. The researchers expected more women represented by an attorney to be awarded assets and income.

Residential location and judge also were used in the analyses to control for social mores and legal resources and procedures. The rural counties were aggregated and compared to the urban county. Traditional mores were thought to be more prevalent in the rural counties. Six judges who heard most of the cases were compared with a pool of judges who each heard relatively few cases. Judges are responsible for enforcement of divorce laws; therefore, controlling for judge was a means of controlling for legal interpretation and enforcement.

Analysis

Linear probability functions were estimated for residence award, cash award, alimony award, and child support award using the General Linear Models (GLM) procedure in SAS. All cases in the sample were used to estimate the functions for alimony award and cash settlement. Cases involving minor children were used to estimate the child support award function. Cases involving disposition of an owned residence were used to estimate the residence award function. Probability of award was a function of woman's legal representation, length of marriage, number of children, number of pages in court record, woman awarded divorce, both parties awarded divorce, residential location, and judges A, B, C, D, E, F.

The coefficients in ordinary least squares (OLS) linear probability functions are inefficient [7]. Although a weighted least squares (WLS) procedure can improve efficiency, both OLS and WLS procedures result in cases for which the expected value of the dependent variable lies outside the range 0-1. The inefficiency does not affect significance tests provided the explanatory variables have a multivariate normal distribution.

Results

Only variables significant at the .1 level or higher are discussed. The discussion focuses on variables which significantly affect the probability of receiving the type of award and the direction of the effect, rather than the size of the effect. First the asset equations are discussed, then the income equations. Finally consistency of effects within award type and across award type is examined. Inconsistency is interpreted as evidence of a tradeoff between awards.

Length of marriage and woman granted divorce significantly increased the probability of the court's awarding the woman a portion of the

family's investment in a residence (see Table 1). Each year of marriage increased the probability of awarding the woman a share of residential equity by .57 percent. When the woman was granted the divorce, the court was 16.9 percent more likely to also award her a share of residential equity. Although none of the presiding judges was significantly different from the pool, two of them, judges A and C, had the largest effects. They were 28.3 and 29.4 percent more likely than the pool to award the woman a share of equity. These results were consistent with the expectation that investment in the marriage and contentiousness of the proceedings would increase probability of receipt of assets. Although the number of significant variables was surprisingly low, all signs were in the expected direction.

Length of marriage, and number of pages in the record significantly increased the probability of the woman's receiving a cash settlement (see Table 2). Each year of marriage increased the probability of a court's awarding the woman a cash settlement by .67 percent. Each page in the court record increased the probability .09 percent. However, the more children in the family the less likely a woman was to receive a cash settlement. Each child decreased by 1.6 percent the probability of a court's awarding the woman a cash settlement. Again, presiding judges had the largest effects. Judges C and D were 5.2 and 4.2 percent less likely than the pool to award the woman a cash settlement. In this equation the results for investment in the marriage and contentiousness were inconsistent. For both concepts one of the indicators had a positive effect and one negative.

Table 1. Probability of Woman Receiving Portion of Investment in Residence Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.0524	.0617
Length of Marriage	.0057	.0029
Number of Minor Children	.0272	.0213
Number of Pages in Record	.0006	.0011
Divorce Recipient Woman	.1690	.0927
Both Parties	.0523	.0936
Rural County	.1931	.2505
Presiding Judge A	.2834	.2152
B	.1461	.2186
C	.2940	.2164
D	.0746	.2231
E	.1748	.1549
F	.1029	.1498
Intercept	.1775	.2346

n = 383 cases involving the disposition of a principal residence

R Square = .0775

F = 2.39
(13,369)

Table 2. Probability of Woman Receiving Cash Settlement Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.0049	.0231
Length of Marriage	.0067	.0012
Number of Minor Children	-.0164	.0085
Number of Pages in Record	.0009	.0003
Divorce Recipient Woman	-.0184	.0316
Both Parties	.0319	.0294
Rural County	-.0275	.1004
Presiding Judge A	-.0160	.0869
B	-.0110	.0877
C	-.0518	.0871
D	-.0415	.0885
E	.0085	.0605
F	-.0032	.0588
Intercept	.0345	.0903

n = 892 cases

R Square = .0536

F = 3.83
(13,878)

Length of marriage and number of pages in the record significantly increased the probability of receiving alimony (see Table 3). Each year of marriage increased by .85 percent the probability a court will award the woman alimony. Each page in the record increased the probability .08 percent. Number of children and divorce granted to wife also increased probability of receipt. As with the asset awards, presiding judges had the largest effects on alimony awards. Judges A, C and E had the largest effects. Judge C was 11.1 percent less likely than the pool to award alimony. Judges A and E were 9.2 and 9.0 percent less likely. Both the significance and sign of the variables supported the expectation that investment in the marriage and contentiousness of the proceedings would increase the probability of award of alimony. Fewer than ten percent of the cases in the sample contained an award for alimony, so the small number of significant variables was not surprising.

Table 3. Probability of Woman Receiving Alimony Award in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	-.0018	.0247
Length of Marriage	.0085	.0013
Number of Minor Children	.0109	.0091
Number of Pages in Record	.0008	.0004
Divorce Recipient Woman	.0237	.0338
Both Parties	-.0132	.0315
Rural County	-.0125	.1074
Presiding Judge A	-.0924	.0929
B	-.0594	.0939
C	-.1114	.0931
D	-.1002	.0947
E	-.0901	.0647
F	-.0681	.0629
Intercept	.0844	.0966

n = 892 cases

R Square = .0773

F = 5.66
(13,878)

An attorney representing the wife, divorce granted to both parties (a dissolution), and Judge E presiding significantly increased the probability of receiving a child support award (see Table 4). A woman represented by an attorney was 16.5 percent more likely to be awarded child support. When both parties were granted the divorce the woman was 14 percent more likely to be awarded child support. Presiding Judge E was 23 percent more likely than the pool of judges to award child support.

Table 4. Probability of Woman With Minor Children Receiving Child Support Award Upon Divorce in Ohio in 1985.

Explanatory Variables	Regression Coefficient	Standard Error
Attorney Represented Woman	.1653	.0449
Length of Marriage	-.0053	.0026
Number of Minor Children	.0265	.0189
Number of Pages in Record	.0002	.0005
Divorce Recipient Woman	.0731	.0624
Both Parties	.1399	.0605
Rural County	-.1514	.1851
Presiding Judge A	.0526	.1507
B	.1222	.1522
C	.0490	.1509
D	.0515	.1555
E	.2314	.1235
F	.1489	.1211
Intercept	.5654	.1647

n = 452 cases involving minor children

R Square = .0758

F = 2.76
(13,438)

While all six judges in the analysis were more likely to sign a decree containing an award for child support than the omitted pool of judges, Judge E more consistently signed such decrees. On the other hand, the longer the marriage the less likely a woman was to receive a child support award. Each year of marriage reduced by .5 percent the probability of the court awarding

the woman child support. This result was counter to expectations. Age of minor children was not controlled and the longer the marriage the older the children are likely to be. Still, minor children require support, and these results indicate that as they age and cost more their fathers are less likely to contribute to their rearing in the form of child support.

Length of marriage was the only variable which significantly affected the probability of being awarded both forms of assets and both forms of income; however, in each equation one measure of investment in the marriage and one measure of contentiousness were significant. Also, in each equation a presiding judge had the largest effect. Also, as a rule, the judges were more likely than the pool to sign decrees with one type of asset or income and less likely than the pool to sign decrees with the other type of asset or income. The opposite signs within assets or income for the set of presiding judge variables indicate that any tradeoffs are within assets or income rather than between assets and income.

Distinctions drawn by previous researchers between asset and income awards were based upon their inherent qualities as stocks and flows, the certainty of receipt and the legal basis to entitlement. The expected patterns of exchange between the types of awards were not found. Rather, the results indicate that the trade offs are made within assets or income. If this be the case, then asset/income distinctions in analyses of divorce awards are insufficient. Classifications of assets and income, heretofore ignored, acquire salience. Yet to be answered is the question of the contribution these awards make to financial security.

REFERENCES

1. Bahr, S.J. "Marital Dissolution Laws: Impact of Recent Changes for Women." Journal of Family Issues, 4 (3), 455-466, 1983.
2. Cherlin, A. "Employment, Income and Family Life: The Case of Marital Dissolution." In Women's Changing Roles at Home and on the Job (pp. 157-178). Proceedings of a Conference on the National Longitudinal Survey of Mature Women. Special Report No. 26, 1978.
3. Duncan, G.J. The Most Important-And Neglected--Consumer Choices. Proceedings of the Annual Conference of The American Council on Consumer Interests, 106-110, 1985.
4. Espenshade, T.J. "The Economic Consequences of Divorce." Journal of Marriage and the Family, 41, 615-625, 1979.

5. Information Please Almanac, 1987. 40th Ed. Boston: Houghton Mifflin Co., 1987.
6. Landes, E.M. "Economics of Alimony." Journal of Legal Studies, 7 (1), 35-63, 1978.
7. Maddala, G.S. Limited-Dependent and Qualitative Variables in Econometrics. (Cambridge, England: Cambridge University Press), p. 15-16, 1983.
8. Mott, F.L. The Socioeconomic Status of Households Headed by Women. (R & D Monograph 72). Washington, D.C.: Employment and Training Administration, 1979.
9. Ohio Department of Health, Statistical Analysis Unit Division of Data Services, Report of Vital Statistics For Ohio 1983. Columbus, Ohio State Department of Health.
10. Prager, S. "Sharing Principles and the Future of Marital Property." UCLA Law Review, 25 (1), 12-22, 1977.
11. Shaw, L.B. "Economic Consequences of Marital Disruption." In Women's Changing Roles at Home and on the Job. Proceedings of a Conference on the National Longitudinal Survey of Mature Women. Special Report No. 26, 181-199, 1978.
12. Weiss, R.S. "The Impact of Marital Dissolution on Income and Consumption in Single-parent Households." Journal of Marriage and the Family, 46, 115-127, 1984.
13. Weitzman, L.J. The Divorce Revolution: The Unexpected Social and Economic Consequences for Women and Children in America. New York: The Free Press, 1985.
14. Weitzman, L.J. "The Economics of Divorce: Social and Economic Consequences of Property, Alimony and Child Support Awards." UCLA Law Review, 28, 1181-1268, 1981.

CHANGES IN ECONOMIC STATUS SURROUNDING THE DEATH OF A SPOUSE

Cathleen D. Zick, University of Utah¹
Ken R. Smith, University of Utah²
Greg J. Duncan, University of Michigan³

ABSTRACT

The death of a spouse is a common life transition for middle aged and elderly couples. Yet, the relationship between this fairly prevalent life transition and changes in economic status is not well understood. In this paper data from the Panel Study of Income Dynamics were used to examine changes in economic well-being near the time of a spouse's death. On average, in the first year after the widowhood, household income fell to 61 percent of what it had been in the year prior to the death. The analysis also revealed substantial heterogeneity in the economic experiences of households where a spouse was about to die. In particular during the pre-widowhood period, households where the to-be-deceased spouse reported a limiting health condition had lower income levels than otherwise comparable households where no limiting health condition was reported.

INTRODUCTION

Modern societies present people with a multitude of choices regarding family formation and dissolution. Over the course of their adult lives, women and men may choose to marry, have children, divorce, and/or remarry. There is mounting evidence that these decisions about living arrangements have direct implications for an individual's economic well-being. For example, recent research shows that marriage generally enhances an individual's financial position while a divorce usually reduces someone's economic resources, especially for women [3,4]. Such findings support the theoretical argument that economic well-being and decisions regarding living arrangements are endogenously determined [5]. Yet, there is one very prevalent type of change in living arrangements that does not fit in this choice framework, but which nonetheless has the potential to impact substantially on an individual's economic well-being. This exogenous change in living arrangements occurs when a spouse dies.

The death of a spouse is a common life transition for middle-aged and elderly couples.

Furthermore, as the age structure of the United States continues to shift from the young to the old, from a societal perspective, widowhood will become a more common life transition. In 1960, approximately 12 percent of all households in this country were headed by a widowed individual. It has been projected that by 1990, the figure will be 17 percent [10]. Despite the increasing prevalence of this demographic transition, the relationship between widowhood and changes in economic circumstances is not well understood.

On the one hand, it seems that the death of a spouse should precipitate a significant decline in economic status for the survivor. When a spouse dies, the household loses the deceased individual's market earnings (or possibly his/her pension benefits if the deceased was retired) and the income from any assets that have been bequeathed to someone outside of the immediate household. This loss may be especially great for surviving widows (who outnumber widowers by approximately 5 to 1). Historically, women have had lower levels of market earnings than men and thus in many instances, once the husband is gone so is the household's primary source of income.

On the other hand, it can be argued that the economic changes wrought by the death of a spouse could be minimal. While the death may reduce a household's financial resources, at the same time, basic needs also drop because household size has been reduced by one. In addition, for marriages that survive into the later stages of the life span, widowhood becomes an inevitable, and generally foreseeable, household composition change. The knowledge of this impending change may motivate couples to engage in financial planning that would soften the negative economic consequences of widowhood. It is also likely that the recent growth in social programs targeted at the aged ameliorate any decline in financial circumstances associated with a spouse's death.

Most of the research that has examined the relationship between widowhood and economic well-being shows that on balance there is a net loss in economic security following the death of a spouse [7,8,9,14]. Yet, there also appears to be a wide variability in the financial changes experienced by newly-widowed individuals. Why is it that some survive this traumatic event with only a small drop in economic resources while others have the misfortune of experiencing a severe decline in economic well-being?

¹ Assistant Professor, Department of Family and Consumer Studies

² Director, University of Utah Survey Research Center

³ Program Director, Survey Research Center

HETEROGENEITY OF THE DEATH PROCESS

To fully understand how household economic status is impacted by the death of a spouse, one should view death as a temporal process. This process is short and unexpected for some (e.g., an individual who dies in an automobile accident), while it is drawn out and generally anticipated for others (e.g., an individual who dies after a three-year bout with cancer). In the former situation, it is likely that the economic changes will be timed close to the death. Presumably in households where a spouse dies suddenly a household's pre-widowhood financial situation would parallel that of other intact-couple households that were not about to experience a death. Then, immediately following the widowhood event their financial situation would deteriorate because of the loss of the deceased individual's economic contributions.

In contrast, the scenario may be quite different for those families where the spouse dies after a lengthy period of illness. Rather than experiencing an abrupt change in economic circumstances, these households are likely to see only a moderate decline in their financial situation at the time of the death. There are two reasons why fluctuations in economic well-being near the time of the death should be softened for this group. First, if the soon-to-be-deceased spouse has an illness that is relatively long-lived and physically debilitating, the household has probably already experienced some decline in economic well-being over the course of the illness. In the years prior to the death, assets may be liquidated to cover medical expenses. Also, the healthy spouse may cut back on market work in order to provide care for the soon-to-be-deceased partner. In essence, for these households a large portion of the decline in economic well-being takes place in the years before the death.

Second, if a spouse experiences an extended period of ill health, the couple may become sensitized to the impending death and they may take actions to minimize its economic impact. For example, the couple may choose a retirement plan where the benefits are low but survivorship rights to the pension are guaranteed (i.e., the surviving spouse, although not the primary pension beneficiary, continues to receive the pension income after the other spouse dies). Essentially, limiting health conditions may motivate couples to engage in more financial planning than they have in the past.

In sum, to assess the change in a household's financial circumstances properly, one should control for the heterogeneity of the death process. It is our contention that the economic impact of this particular family composition change varies by whether or not the death was preceded by a long illness. If the death is sudden, the change in economic well-being

attributable to the death will occur in the one or two years after the spouse dies. However, if the death is the final outcome of a lengthy illness, then the estimation of the change in economic status attributable to the death may only be captured by taking a more long-run picture. Specifically, to estimate the decline in economic status for these latter households, one may need to examine changes in their financial circumstances several years before the actual death.

THE DATA

An initial evaluation of whether limiting health conditions prior to a widowhood affect changes in family economic well-being near the death of a spouse requires a longitudinal analysis of household-level panel data. Only with such data can we properly isolate the changes in economic status surrounding a spouse's death.⁴ The data for the present analyses come from the 1983 release of the Panel Study of Income Dynamics (PSID). The PSID was chosen for this work because it is the only panel study that allows a researcher to examine the economic situations of a nationally representative sample of households for several years both before and after a spouse dies.

To gain an understanding of how the possible heterogeneity of the death process impacts on the economic status of the household, it is important to begin at the descriptive level. Here the analysis begins by tracking two household types. The first group consists of married-couple households where one spouse dies during the period of analysis (subsequently referred to as the widowed households). The second group consists of married-couple households that remain intact throughout the period (subsequently referred to as the intact households).

Widowed households had to meet three criteria to be included in the sample. First, each

⁴ See Zick and Smith [14] for a detailed discussion of this point.

⁵ Sampling widowed households from the PSID does have one potential source of bias which is currently common to almost all panel data sets. Only those noninstitutionalized widowed individuals who were still alive and agreed to be interviewed in 1983 are included in the sample. Since surviving spouses have a higher probability of dying shortly after their spouse's death than do their married and single counterparts, the PSID sample of widows may be atypical (Helsing et al., 1981). By using the PSID sampling weights (which correct for unequal probabilities of selection into the sample and differential response rates), we partially correct for this possible mortality bias.

household had to have experienced the death of the husband. Wives' deaths have been excluded because critical data on the existence of limiting health conditions is not collected each year for wives in the PSID. Second, the death had to occur between 1969 and 1981. The 1969 to 1981 time period was selected because in the 1983 release of the PSID data, these are the years for which one can calculate household economic status one year prior to the death and one year after the death. Third, the surviving spouse (i.e., the widow) must not have remarried during the follow-up period. There are 298 households where the husband died between 1969 and 1981 in the PSID. Of these 298, there are 13 widows who remarry, leaving 285 widowed households for the current analysis.

A sample of 1701 intact households has also been drawn from the PSID. Each household in this group is at risk of experiencing the death of a spouse. Thus, by examining the economic circumstances of the intact households over the same period of time, it is possible to establish a baseline estimate of changes in economic well-being against which the changing financial circumstances of the widowed sample can be compared.

Prior to conducting the descriptive analyses, the intact households are matched to the widowed households to avoid inappropriately attributing life cycle changes in economic well-being to marital status. The matching process involves several steps. First, the intact households are randomly assigned to a "year of widowhood." Second, the distribution of the year of widowhood and age of the surviving spouse at the time of the death are ascertained for the widowed households. Finally, the continuously-married households are weighted so that their age and year of widowhood distributions are comparable to the distributions for the widows.

DESCRIPTIVE ANALYSES

To assess the extent to which economic well-being differs between the two household types, we begin by examining mean household income for each group in the year immediately preceding the death (i.e., year $t-1$ and the year immediately following the death (i.e., year $t+1$).

⁶ For instance, it is quite likely that widowed households will be headed by an individual who is older than the head of an average continuously-married household. Furthermore, households headed by older individuals have less income than households headed by younger individuals. If the data are not weighted to correct for this age distribution difference, then we would run the risk of overestimating the difference in income between the two groups that can be attributed to marital status.

The definitions for all of the variables used in the analyses that follow appear in Table 1. The means and standard deviations for household income and income-to-needs ratios for both year $t-1$ and year $t+1$ appear in Table 2. The interpretation of the income-to-needs ratio is straightforward [12]. A household with a ratio of one has exactly enough income to meet its basic food, clothing, and shelter needs. In contrast, a household with a ratio of 4.5 has four-and-one-half as much income as it would take to meet its basic needs.

TABLE 1. Variable Definitions

Variable	Definition
WIDOW _t	Dummy Variable; 1 = household where the husband dies in year t 0 = continuously-married household
DISABILITY _{t-1}	Dummy Variable; 1 = husband reported a limiting health condition at least once between t-1 and t (i=1 or 5) 0 = husband reports no limiting health condition between t-1 and t (i=1 or 5)
INCOME _{t-1}	Household income in year t-1 (i=1 or 5) measured in 1982 dollars
INTRENT _{t-1}	Proportion of household income derived from interest earnings and rent in year t-1 (i=1 or 5) measured in 1982 dollars
PENSION _{t-1}	Proportion of household income derived from private pension sources in year t-1 (i=1 or 5) measured in 1982 dollars
SSECURITY _{t-1}	Proportion of household income derived from Social Security in year t-1 (i=1 or 5) measured in 1982 dollars
RETIRE _t	Dummy Variable; 1 = if the household head retires between t-1 and t+1 0 = if the household head does not retire between t-1 and t+1
PRERETIRE	Dummy Variable; 1 = if the household head retires between t-5 and t 0 = if the household head does not retire between t-5 and t
POSTRETIRE	Dummy Variable; 1 = if the household head retires between t and t+5 0 = if the household head does not retire between t and t+5
I/NEEDS _{t+1}	Ratio of household income to basic family needs in year t+1 (i= -5, -1, 1 or 5)
AGEL50 _t	Dummy Variable; 1 = head of household was less than 50 in year t 0 = otherwise
AGE5062	Dummy Variable; 1 = head of household was age 50 to 62 in year t 0 = otherwise
AGE62	Dummy Variable; 1 = head of household was over age 62 in year t 0 = otherwise
WIDYEAR _t	Calendar year of the widowhood. In the t-1 to t+1 analysis, WIDYEAR = 69 to 81. In the t-5 to t+5 analysis, WIDYEAR = 72 to 77.

⁷ Information on the household's economic status for year t is not used here because the data for this year would reflect the economic contributions of the deceased spouse for the months prior to the death. Thus, a "clean" measure of the change in financial circumstances at the time of a spouse's death can best be gleaned by looking at the difference between economic resources in t+1 and t-1.