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Two-Year Financial Records for 26 Ohio Rural Nonfarm Families in Transition

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INTRODUCTION

Studies of family receipts and expenditures have been conducted for many years for a wide variety of reasons by equally varied methods. Lamale (3) has suggested that expenditure studies contribute information on: a) where we are with respect to our levels and standards of living; b) where we have been; and c) where we may reasonably expect to go. Broadly based investigations of a national scope provide such information.

Studies undertaken by state and local agencies also have focused on levels of living (6). Welfare and other social agencies express particular need for such information as an aid in counseling families. In addition, inquiries on a state and local level provide insight into the financial management of special groups. The over-extended family (2), the family under the impact of special demands (1), and the security of the family (4) represent problems related to management of resources.

Financial management becomes particularly important when there are changes in the family situation. The general purpose of this study was to examine interrelationships among expenditures, savings, and receipts during a period of family transition. Specifically, allocations of expenditures, changes in net worth, use of credit, and financial expectations were analyzed for families with a child graduating from high school in 1964.

Cooperation with Other Agencies

Researchers from experiment stations of the University of Illinois, Purdue University, Michigan State University, and the Ohio Agricultural Research and Development Center cooperated informally in designing the study and formulating the data processing code for receipts and expenditures. Ideas were also exchanged and problems in methodology discussed with the Department of Agricultural Economics and Rural Sociology, The Ohio State University and Ohio Agricultural Research and Development Center, and with personnel of the Buckeye Farm Records, a private system associated with the Ohio Farm Bureau Federation.

Summary of Methods

Monthly reports of receipts and expenditures were mailed to the investigators from September 1963 through December 1965 by 26 families residing in the open country of Ohio. Monthly summaries of the major categories of receipts and expenditures and pertinent balances were computed by electronic data processing and returned to each family each month. An annual report including details of receipt and expenditure categories was also generated and mailed to each family.

Initial and close-out interiews were held with each homemaker to obtain basic information about the family and its net worth information, as well as financial expectations.

THE SAMPLE

Limitations of the Sample

Participants in the study were husband-wife households including a child planning to graduate from high school in 1964, were located in the open country of four central Ohio counties, and were primarily dependent on income from a source other than farming.[1] Findings in the study are limited by the small number of cooperators and by any bias introduced by types of families willing to participate.

Characteristics of initial cooperators were compared to those of the North Central Region rural nonfarm families in the 1960-61 Survey of Consumer Expenditures to identify differences in the two groups (Table 1). A higher percentage of initial cooperators in Ohio were waged and salaried workers and the household head had more years of schooling than the North Central Region nonfarm families. The mean income of cooperators was approximately $7,700 before taxes, as compared to just over $5,000 for the North Central Region rural nonfarm segment. A higher proportion of initial Ohio cooperators were home and automobile owners than was true for the region as a whole.

Households willing to participate in keeping financial records appear to differ in financial position and educational level from the population as a whole.

Location of Cooperators

Lists of 988 high school seniors in Delaware, Marion, Morrow, and Union counties were obtained in the summer of 1963. The local county school

[1]Open country includes rural areas and towns under 2500 population.

TABLE 1.—Characteristics of Initial Ohio Nonfarm Cooperators and North Central Region Rural Nonfarm Families.

Characteristic	Initial Cooperators	North Central Region Rural Nonfarm*
		Percent
Major Income Source		
Wages	55	43
Salary, including clerical and sales	34	19
Self-employment	11	10
Other	0	28
		Mean
Income Before Taxes	$7,742	$5,197
		Percent
Net Worth Components		
Home owners	90	68
Automobile owners	100	84
		Mean Number
Family		
Children under 18	2.5	1.3
Age of household head	45.6 years	50 years
Education of household head	11.6 years	10 years

*Source: B.L.S. Report No. 237-85, June 1964, p. 12.

TABLE 2.—Characteristics of Continuous and Noncontinuous Ohio Nonfarm Cooperators.

Characteristics	Cooperators	
	Continuous	Noncontinuous
		Percent
Major Income Source		
Wages	58	53
Salary	35	34
Self-employed	8	13
		Mean
Income Before Taxes	$8,093	$7,551
		Percent
Net Worth Components		
Home owners	100	85
Automobile owners	100	100
		Dollars
Land value (assessed) Mean	$7,061	$6,570
		Mean Number
Family		
Children under 18	2.3	2.6
Age of household head	45.8 years	45.5 years
Education of household head	11.5 years	11.7 years
Education of homemaker	12.6 years	11.8 years
		Number
Families	26	62

offices provided the lists after permission was secured from county school superintendents.

Letters explaining the project were sent during a 4-month period to 770 families who met the criteria for the sample. A telephone call or personal visit followed each letter to ascertain the interest of the family. The expense of reaching families without a telephone led to a decision to send letters only to families with a telephone.

Of the 770 contacts, 88 families who agreed to send monthly records of receipts and expenditures for a period of more than 2 years were interviewed. Lack of time and interest were the major reasons that 69 percent did not agree to cooperate.

Continuous and Noncontinuous Cooperators

Although 88 families agreed to keep records, only 26 families continued to mail in the records for the entire period. Greatest attrition occurred in the first 6 months. During that period, 52 families stopped sending records or never started. Reasons for discontinuation included "records are too much work," "can't keep accounts," "too busy," and illness.

Differences in families who agreed to keep records from the population as a whole were mentioned earlier. Differences were also examined between families who continued to keep records and those who discontinued. The group of continuous recordkeeping families had a somewhat higher mean income before taxes, higher percentage of home ownership, more highly educated homemakers, and higher mean assessed land values (Table 2). Families who stopped keeping records were a little larger than those who continued. In general, differences in the continuous and non-continuous cooperators were considerably less than between initial Ohio cooperators and nonfarm families of the North Central Region.

METHODS OF DATA COLLECTION AND PROCESSING

Interviews with Families

An interview was held with the family member who indicated an interest in cooperation; in most cases the cooperator was the wife. Information was obtained on the age, education, and responsibilities of family members; occupations and types of earnings; current status and arrangements relating to fixed commitments and net worth items; expectations regarding income and expenditures; and other financial management factors.

At the completion of the study, an interview was held with families who cooperated for the entire period. The purpose of this close-out interview was to up-date net worth information and to ascertain the awareness of changes in financial management.

TABLE 3.—Percent Unaccounted Receipts or Expenditures for 26 Ohio Nonfarm Families, 1964 and 1965.

Percent Unaccounted Receipts or Expenditures	1964* Unaccounted Receipts	1964* Unaccounted Expenditures	1965† Unaccounted Receipts	1965† Unaccounted Expenditures
	Number of Monthly Records			
0	17		22	
Less than 5	59	131	62	123
5-9	18	33	16	32
10-19	10	23	15	17
20-29	3	5	4	7
30 or more	2	4	3	3

*Based on 305 monthly records.
†Based on 304 monthly records.

Records of Receipts and Expenditures

Recordkeeping forms, description of receipts and expenditures, and a stamped, self-addressed envelope were given to each cooperator at the time of the original interview. Carbonless copy paper was used for the form (Appendix A). The family retained a copy of each record for future reference.

The original copy of the record was mailed to the investigators at the end of each month by the cooperator and was hand coded before being processed. The 5-digit code for the receipts and expenditures consisted of: the nature of the transaction (receipt or expenditure), the major categories, the category sub-group, the sub-group itemization and cross-category classification, and transaction type (cash, credit, and/or fixed commitment).

The monthly summary of receipts and expenditures by major categories (Appendix B), balance of the installment debt, summary of fixed commitments, and balance of receipts and expenditures were generated. Definitions for these calculations and other terms appear in Appendix C.

The summary statement from the previous month and a stamped return envelope were mailed to the cooperators to arrive as nearly as possible on the 30th of each month. An example of the summary appears in Appendix D. The timing of the summaries was intended to encourage cooperators to send promptly the month's record just completed. More than 80 percent of the records were received within the first 10 days of the month. In general, the pattern for sending in records did not change appreciably from 1964 to 1965.

Information reported in this study covers the period from January 1, 1964, to December 31, 1965. Since most cooperators began recordkeeping in the fall of 1963, the period up to January 1, 1964, served as a useful practice time. The necessity of dating receipts and expenditures by cooperators and the value of recording items soon after the transaction were stressed by the researchers. During the practice period, omissions in debts and assets at the time of interview were uncovered.

Unaccounted Receipts and Expenditures

Each monthly summary of receipts and expenditures provided to the cooperators included an amount which represented unaccounted receipts or expenditures. The calculation was based on cash on hand from the previous month (PCOH) plus receipts for the current month less expenditures for the current month and cash on hand at the end of the month (COH). Unaccounted receipts indicated the extent to which expenditures and COH exceeded PCOH and reported receipts; unaccounted expenditures were likewise exceeded by PCOH and receipts. By alerting the cooperators to these differences and encouraging them to make corrections, it was hoped the accuracy of the reporting could be improved over time.

Since the unaccounted figure was based on the difference between receipts and expenditures, the accuracy was dependent on the accuracy of reporting. Agreement of current and uncorrected reports was of interest, as was the extent to which later corrections improved accuracy. The percentage of unaccounted receipts and expenditures was the relation of the unaccounted amount to the larger total, either receipts or expenditures. In terms of all monthly reports, unaccounted expenditures were most common (Table 3).

Although many changes in receipts and expenditures were made over the 2-year period, no improvement in corrected data was apparent from either comparisons of means of monthly summaries for the year or the calculation of an annual summary for each family (Table 4). The annual summary was the unaccounted amount at the end of the year resulting from the subtraction of COH at the end of the year plus the year's expenditures from the COH at the beginning of the year plus the year's receipts. This annual unaccounted and corrected proportion was less than 5 percent for 41 of the 52 annual summaries

TABLE 4.—Mean Percent Unaccounted Receipts or Expenditures for Uncorrected and Corrected Annual and Mean Monthly Summaries for 26 Ohio Nonfarm Families.

Mean Percent Unaccounted Receipts or Expenditures	Mean Monthly Summaries		Annual Summaries	
	Uncorrected	Corrected	Uncorrected	Corrected
	Number			
Less than 1.00	10	5	23	13
1.00-2.99	11	13	14	21
3.00-4.99	9	8	4	7
5.00-9.99	16	13	9	7
10.00 or more	6	13	2	4
Total	52	52	52	52

compared to 26 of the 52 mean monthly unaccounted and corrected reports. Only four of the corrected annual summaries had 10 percent or more of the total unaccounted.

Unaccounted receipts or expenditures evidently tended to balance out over the year for individual families. Perhaps there were more inconsistencies in reporting certain transactions, such as 30-day accounts, or inaccuracies in dating rather than actual omission of data. The extent to which such inconsistencies might influence the use of monthly compared to annual data was not pursued.

Net Worth Calculation

Net worth information was obtained from the cooperating families at the time of the original interview and was revised in January 1964, January 1965, and at the close-out interview. Net worth, as a balancing item between a family's stock of durable and liquid assets and of long- and short-term debt, reflects the financial position at a given point in time. Such information is important, along with income and expenditure data, in describing the total financial situation of families. It was anticipated that annual comparisons of income, expenditure, and net worth categories, as well as analyses of activity within these categories throughout the recordkeeping period, would be useful in clarifying their interrelationships.

Categories for assets were: household durables, real estate, cash surrender value of life insurance, savings accounts and bonds, cash on hand and in checking accounts, stocks and marketable bonds, retirement funds, accounts receivable, and business assets. Liabilities included installment or dealer credit, cash loans, revolving charge accounts, and mortgage and business debts.

Inventories of household goods were limited to representative durables which would cover a significant portion of the total inventory and for which estimated values could be objectively determined. Furnishings, jewelry, clothing, and antiques were omitted because of the difficulties of determining depreciated or appreciated values and because these items are not generally a major part of net worth. Since the economic value of these items, except for occasional investments in jewelry and antiques, is rarely of financial importance to families, the difficulties in securing accurate evaluations were considered prohibitive. Further, the representative items were deemed to provide adequate opportunity for the effect of expenditure decisions to be reflected in this category of assets.

The durables included were automobiles, range, refrigerator, freezer, washer, dryer, dishwasher, room air-conditioner, stereo, and power mower. Current values of household durables were determined by applying a depreciation rate from the initial value of 25 percent for each year of use. Automobile values were established as an average of the trade-in quotations in the *N.A.D.A. Official Used Car Guide* and from *Red Book, National Market Reports, Inc., Region A.*

Real estate included two sub-categories: 1) the value of the home with its surrounding land and 2) other real estate owned by the family as an investment. Where the house was part of real estate used for business purposes, as for part-time farming, the value of the dwelling was separated from the remainder of real estate. The estimate of real estate values was provided at the initial interview and again at the close-out interview. Values for the intervening period were changed by these revised estimates as improvements or buying and selling occurred.

Reported real estate values and recorded assessed valuations were significantly related for 13 families of one county (Kendall tau coefficient $= .62$, $T = 2.87$ (S corrected) $p < .01$).[2] This gave support to the accuracy of one of the major components of net worth.

At the time of the initial interview, information on life insurance cash surrender values for the years covered by the study was obtained from the policies

[2]See Kendall, M. G. 1948. Rank correlation methods, pp. 55-56, Griffin, London.

whenever possible. When this was not possible, cooperators either sent cash surrender information later or provided enough information about the type and extent of coverage to estimate cash values from an abridged rate book. An interest rate of 3 percent per year was applied to paid-up policies.

Savings accounts included all money deposited in interest accounts, including credit unions, and in Christmas clubs for all family members. From the records provided throughout the year on deposits and withdrawals, these accounts were revised at the close-out interview.

For U. S. savings bonds, cooperators provided the face value, the number owned, and the month and/or year each was purchased. The value for the beginning of each year was then determined from the U. S. Treasury Department redemption value table. If the month of purchase was not available, the middle of the year was assumed.

The value of listed stocks and marketable bonds at the beginning of each year was obtained from the *Wall Street Journal* and the *Columbus Citizen-Journal* for local listings. For those few stocks not listed on a market, the families' evaluations were obtained and used annually unless information obtained at the final interview indicated changes to be made for the intervening period.

Information was sought on accounts receivable. All business assets for equipment and machinery, supplies, and other inventory items were incorporated in an overall total.

The amount of cash on hand and in checking accounts was obtained at the beginning of the interview and at the end of each month throughout the record-keeping period.

The category for installment credit was limited to dealer credit obtained for the purchase of household goods where special contractual arrangements were made. Purchases on dealer credit using an account with pre-arranged limits and regular interest rates on the unpaid balance were classified under revolving charge accounts. Cash loans represented all sources of money loans except mortgages—banks, savings and loan associations, insurance companies, credit unions, friends, or relatives. A regular plan for repayment may or may not have been part of the terms. The status of the above credit was kept current through monthly information submitted by the families.

In addition to the amount of mortgage debt at the time of the initial interview, information was also obtained on the repayment terms. Payments on principal could then be separated from interest and escrow accounts in determining the reduction in the principal at the end of each year.

Debts for business purposes were included in the business category and were revised annually by the cooperators.

DESCRIPTION OF FAMILY FINANCIAL SITUATION

Receipts and Expenditures

Although a multitude of data is available concerning family receipts and expenditures by differences in income level, age of head, occupation of head, and location of family, the purpose of including a summary of receipts and expenditures of the 26 Ohio families is to describe the financial situation of a special group. A summary of the actual mean dollar values of annual receipts and expenditures is presented in Table 5.

Families often want to know how they compare with other families in similar circumstances. A comparison of their own records with the mean expenditures for the North Central Region would provide such information for families. In the interest of research, the comparison indicates the differences and similarities for familes in the project and in the population as a whole.

The comparison with the North Central Region expenditures is complicated by differences in definitions of categories of expenditures and by differences

TABLE 5.—Receipts and Expenditures for 26 Ohio Nonfarm Families, 1964 and 1965.

Category	1964		1965	
	Mean Dollars			
Receipts				
Earned income	8,787	(n=25)	9,125	(n=25)
Unearned income	625	(n=14)	217	(n= 8)
Withdrawals from assets	1,964	(n=14)	2,678	(n=18)
Money borrowed	1,545	(n=14)	1,525	(n=17)
Return on investments	241	(n=15)	325	(n=14)
Business receipts	2,117	(n= 9)	2,205	(n= 8)
Expenditures				
Food	1,340		1,303	
Housing	1,882		2,251	
Household operation	809		866	
Furniture, equipment, and tools	351		475	(n=25)
Clothing	449		395	
Transportation	1,375		1,290	
Recreation	488		435	
Education	975		1,045	
Health or medical	420		426	
Personal	265		227	
Gifts and contributions	465		485	
Taxes	1,048		1,203	(n=25)
Insurance	398		395	
Family investments	1,523	(n=25)	1,518	(n=25)
Money repaid	1,173	(n=24)	1,198	(n=23)
Business expenses	1,809	(n=23)	3,149	(n=20)
Business investments	2,288	(n= 7)	4,700	(n= 5)

between the present sample and the population. North Central Region rural nonfarm families with the head 45-54 years of age with $7,500 to $9,999 in money income before taxes in 1961 are most comparable to the 26 Ohio families. The mean income before taxes for the Ohio group was $8,093 in 1964 and the mean age of head of the family was almost 46 years. Mean expenditures of North Central families are presented in Table 6, both in actual 1961 dollars and dollars adjusted to 1964 price level, and figures for Ohio families are included for comparative purposes.

TABLE 6.—Expenditures of North Central Rural Nonfarm Families in 1961, Actual and Adjusted to 1964 Dollars, and of 26 Ohio Nonfarm Families in 1964.

Expenditure Category	North Central—1961 Actual	Adjusted 1964*	Ohio 1964
		Mean Dollars	
Food	$1,485	$1,540	$1,340
Housing	1,789	1,840	1,882
Household operation	898	909	809
Furniture, equipment, and tools	235	242	351
Clothing	541	556	449
Transportation	1,867	1,944	1,375
Recreation	331	353	488
Education	89	92	975
Health or medical	297	319	420
Personal	270	281	265
Gifts and contributions	648	672	465
Insurance	527	547	398

*Monthly Labor Review, Sept. 1963. 86(9):1128; Monthly Labor Review, July 1965. 88(7):916.

Differences in expenditures between the North Central Region and 26 Ohio families amounting to more than 25 percent of the Ohio expenditures occurred in categories of home furnishings, transportation, recreation, gifts, insurance, and education. Expenditures for the Ohio families were higher in those categories for furnishings, recreation, education, and medical care.

The difference in educational expenses is to be expected for a group of families such as those from Ohio with a child graduating from high school, with 16 of the 26 continuing education beyond high school.

Another factor which may contribute to apparent differences in the expenditures is the method of data collection. In the North Central Region study, a part of the larger BLS-USDA national study, the expenditures were recalled by the family. The present study with the system of recordkeeping and sending in the records monthly may have resulted in differences for some expenditures.

Net Worth

The mean net worth of $22,019 in 1964 for the 26 Ohio families was somewhat lower than the $23,632 average net worth for North Central Region families included in a 1963 national study (5). Inclusion of household equipment in assets for the Ohio study widens the effective difference in the two groups.

For the Ohio families, the mean net worth was $27,012 at the beginning of 1966 (Table 7). Liabilities increased over the 2 years, although relatively less than assets.[8] Sharma predicted accurately the favorable net worth position over the 2 years through offsetting of additional borrowings by accumulation of assets. Increases in assets were largely due to other real estate purchases and business assets.

Home ownership was a major component of net worth in the Ohio study, as was true for families with under $25,000 net worth in the national study (5). The relative contribution of the home to total assets was at least 50 percent in Ohio. Home ownership comprised a somewhat higher portion of net worth in 1964 when the mean for total assets was lower than in the other 2 years. Values of automobiles, life insurance, and interest accounts in the present study were generally comparable in their importance over

TABLE 7.—Net Worth of 26 Ohio Nonfarm Families at Beginning of Years 1964, 1965 and 1966.

Category	1964	1965	1966
		Mean Dollars	
Assets			
Household equipment	240	225	237
Autos	1,672	1,911	1,629
Life insurance	1,965	2,161	2,307
Interest accounts	1,329	1,422	1,521
Bonds	420	458	441
Stocks	386	400	556
Houses	17,348	18,137	18,704
Other real estate	3,142	3,947	6,358
Accounts receivable	215	62	106
Business assets	2,745	2,958	3,751
Cash on hand	397	588	481
Total	29,859	32,270	36,092
Liabilities			
House mortgages	5,170	5,335	5,048
Other mortgages	874	1,178	1,693
Life insurance loans	172	122	179
Installment debts	302	463	228
Revolving charge accounts	46	64	17
Other cash loans	894	882	1,681
Business obligations	383	978	233
Total	7,840	9,023	9,080
Net Worth	22,019	23,247	27,012

[8]For an analysis of components of net worth, utilizing data from the present study, see: Sharma, S. 1965. Relationship of socio-economic variables to savings of 40 Ohio families. Unpublished Ph.D. Dissertation, The Ohio State University.

the three net worth points, with the value of automobiles showing more fluctuation than the other two items.

ANALYSIS OF DATA

Changes in Receipts and Expenditures

Changes During Period of Transition: In undertaking a longitudinal study of receipts and expenditures of families experiencing a change in the family situation, alterations were expected in receipts and expenditures. Originally the design of the study called for collection of data from the school year of 1963-64 to compare with that for the school year of 1964-65. Due to the length of time required for securing cooperators, data were not available for the full period of September through December 1963. As stated earlier, the months before January 1, 1964, were used as practice months.

The first 6 months of 1964 and 1965 were therefore used for comparison of receipts and expenditures (Table 8). During the first 6 months of 1964, a child in each cooperating family graduated from high school and during the first 6 months of 1965, that same child was engaged in some other activity.

The mean reported expenditures for all families for the first 6 months, including cash on hand, were $6,917 for 1964 and $7,901 for 1965. Expenditures which were significantly different (Sign test) for the two periods were clothing (higher in 1964), recreation (higher in 1964), personal (higher in 1964), and education including college expenses (higher in 1965). College expenses in 1965 included all expenditures for the college-age person. The dollar difference in the mean education expenditures was $342; the total difference in spending for clothing, recreation, and personal expenses was $153.

The mean reported receipts, including previous cash on hand and refunds, for the first 6 months of 1965 were $7,937 and for 1964, $6,957. None of the categories of receipts was significantly different, although earned income, withdrawals from assets, money borrowed, and business receipts increased somewhat. None of the expenditures previously listed changed significantly during the second 6-month periods of 1964 and 1965, although earned income and business receipts were significantly higher during the second 6 months of 1965 than in 1964 and taxes were higher in 1965 for the same period of comparison. For the six families having a change in business investments between the second 6 months of 1965 and 1964, all had invested less in 1965.

These families in transition were experiencing changes in their income and expenditure patterns. A longer period of study of receipts and expenditures as well as net worth is needed to see the long run effects of such changes.

Financial Plans, Actual Expenditures and Review of Expenditures: In 1963, families were asked if they expected to increase, decrease, or spend about the same in the next 3-5 years for various expenditure categories. The families were then asked in 1966 to review the expenditures made during the past 2 years for the same categories. The plans and review of expenditures and the actual expenditures in 1966 compared to 1965 were examined. For all categories, almost half of the families had no agreement between the reported plans for the family, the actual amount spent, and the review of expenditures in 1966 (Table 9).

A majority of families were in agreement for plans, actual expenditures, and review of expenditures in food and education categories. Food is a frequent purchase and food prices were discussed in the news media during the time of the study. Education expenditures were important for a number of the families—16 had children who attended college in 1964-65.

TABLE 8.—Receipts and Expenditures for 26 Ohio Nonfarm Families for the First 6 Months of 1964 and 1965.

Category	First 6 Months 1964	1965	Sign Test†
Receipts			
Earned income	$4,465 (n=25)	$4,622 (n=25)	
Unearned income	142 (n=14)	148 (n= 8)	
Withdrawal from assets	716 (n=14)	1,277 (n=18)	
Money borrowed	1,015 (n=14)	1,823 (n=17)	
Return on investments	240 (n=15)	427 (n=14)	
Business receipts	2,964 (n= 9)	3,810 (n= 8)	
Expenditures			
Food	$ 671	$ 647	
Housing	551	640	
Household operation	408	482	
Furniture, equipment, and tools	170	207 (n=25)	
Clothing	242	181	*
Transportation	668	631	
Recreation	240	202 (n=25)	*
Education	267	609 (n=25)	*
Health or medical	203	183	
Personal	154	100	*
Gifts and contributions	194	194	
Taxes	636 (n=24)	672 (n=25)	
Family insurance and investments	956	1,118	
Money repaid	451 (n=21)	654 (n=22)	
Business investments	246 (n= 5)	4,580 (n= 5)	
Business expenses	1,138 (n=19)	1,354 (n=19)	

*Significant at .05 level.

†See Siegel, S. 1956. Non-parametric statistics. pp. 68-71. McGraw-Hill Book Co., New York.

Questions have been raised as to the effect of recordkeeping on the expenditures of families. If families alter their spending in relation to knowledge from financial records, it would seem that the families would have more information about the records than these Ohio families.

Reference to Records: Financial records may be used for reference in making major decisions and the cooperators were asked about such use in both interviews. In 1966, four families reported using the records for major decisions, including purchase of a stereo, a pool table, a tractor, and consideration of a house purchase.

Families also reported using the records for purposes which appear to be closer to control than to planning. Income tax purposes, checking of past specific expenditures, and checking on the financial situation were uses of records most frequently reported.

It appears that although the cooperators did not know about all receipts and expenditures, specific uses of the records were made.

Income and Credit Comparisons, 1964 and 1965

Correlations of month-to-month changes in income and in the balance on debt over the 2-year record period were not significant. To focus on differences in the 2 years during and following the high school senior's year of graduation, January to June records were used for least squares analysis of variance.[4] Income effects and yearly differences were analyzed in relation to monthly balance on debt, change in balance on debt and change in income, after accounting for family and monthly variation (Table 10). F values indicated no yearly effects for change in balance on debt and change in income. Differences in balance on debt in the first six months of 1964 and of 1965 were significant; the 1964 mean was $1,388 and for 1965 was $1,548. Regressions on income were significant for all three comparisons; i.e., as income increased, changes in debt and level of debt also increased.

TABLE 9.—Agreement in Financial Plans in 1963, Actual Expenditures for 1964-65, and Review of Expenditures in 1966.

Category	Agreement				No Agreement
	Plans + Actual + Review	Actual + Review	Actual + Plans	Total	
	Number of families				
Food	10	6	7	23	3
Renting, buying house	8	3	1	12	8
Major improvements (house)	4	2	6	12	14
Household equipment	2	1	6	9	17
Furniture	8	1	3	12	14
Clothing	4	2	2	8	18
Recreational equipment	6	4	1	11	14
Transportation	8	5	1	14	12
Vacations	6	3	4	13	13
Education and college	10	5	—	15	11
Health and medical	2	7	0	9	17
Gifts	2	5	2	9	17
Investments or savings	3	5	2	10	16
Repay debts	2	4	2	8	15
Total	75	53	37	165*	189*

*Grand total should equal 364; the difference of 10 is due to no data for some categories.

TABLE 10.—Least Squares Analysis of Change in Balance on Debt, Balance on Debt, and Change in Income for 26 Ohio Nonfarm Families, 1964 and 1965.

Variable	df	Mean Square	F Value
Change in Balance on Debt			
Total	286		
Months (6)	5	675631	2.33
Year	1	242450	.84
Income	1	1624160	5.60*
Error	279	290020	
Balance on Debt			
Total	286		
Months (6)	5	440159	.81
Year	1	2008870	3.71
Income	1	12287526	22.72**
Error	279	450901	
Change in Income			
Total	286		
Months (6)	5	473	.33
Year	1	414	.29
Income	1	433181	302.24**
Error	279	1433	

*Significant at .05 level.
**Significant at .01 level.

Net Worth Analysis

Factors included in the study of net worth relationships for each year were:

1. Change in net worth during year as a percent of income
2. Investment and insurance outlays as a percent of income
3. Change in total assets, end of year minus beginning
4. Change in total liabilities, end of year minus beginning
5. Net worth at end of year

In previous studies, income and net worth have shown high relationships (5). Increases in liabilities

[4]Harvey, W. R. 1960. Least squares analysis of variance of data with unequal subclass numbers. U. S. Dept. of Agriculture, ARS-20-8.

TABLE 11.—Correlation Matrix for Net Worth Factors for 26 Ohio Nonfarm Families.

Variable	Correlations			
1964	Var. 2	Var. 3	Var. 4	Var. 5
1. △ Net Worth for Year / 1964 Income	.09	.29	—.48*	.21
2. Investment and Insurance / 1964 Income		.07	—.04	.61**
3. △ Total Assets, 1964			.67**	.02
4. △ Total Liabilities, 1964				—.15
5. Net Worth, End of 1964				
1965	Var. 2	Var. 3	Var. 4	Var. 5
1. △ Net Worth for Year / 1965 Income	.74**	.85**	.43*	.45*
2. Investment and Insurance / 1965 Income		.59**	.51**	.45*
3. △ Total Assets, 1965			.74**	.39*
4. △ Total Liabilities, 1965				.03
5. Net Worth, End of 1965				

*Significant at .05 level; **Significant at .01 level; △=change.

in order to increase assets and total net worth have also been related. In the present study, change in net worth and investment were used as a percent of income in order to reflect savings relationships to income in a comparable way for the 2 years. With the possible exception of the relation of change in net worth to change in liabilities, depending on whether liabilities were increasing or decreasing or assets were purchased without debt, positive relationships were anticipated.

The only significant correlations for 1964 were negative between liabilities and change in net worth, positive between assets and liabilities, and positive for investment and net worth at the end of the year (Table 11). For 1965, all relationships were significant except for change in total liabilities and net worth at the end of the year.

The few significant correlations for 1964 compared to 1965 may be affected by the initial impact on families of a transitional period. To clarify this possibility, more detailed data including a control group would be needed.

SUMMARY

Receipts, expenditures, and net worth were examined from 1964-66 financial records kept by 26 Ohio families. All families were husband-wife households having a child graduating from high school in 1964; all resided in the open country and had primarily nonfarm income.

In the period of transition, with a child graduating from high school, the families spent more for education in the first 6 months of 1965 than in the same period of 1964 and more for clothing, recreation, and personal expenditures in the first 6 months of 1964. Changes in expenditures anticipated at the beginning and review of expenditures reported by families were not generally consistent with actual changes made, except for food and education categories.

Income affected changes in balance on debt for the first 6 months of 1964 and 1965, actual balance on debt, and change in income for the same period, after accounting for family and monthly variations. As these families increased their income, they also increased their indebtedness. However, the total net worth assets increased more than the total liabilities, effecting an increase in net worth.

The number of cooperators participating in the study limits conclusions and implications. The cooperators differ from the general population in several ways and differ specifically in comparison with North Central Region rural nonfarm families. The Ohio cooperators had more highly educated heads of household, higher incomes, and higher percentage of home and auto owners than the North Central Region families as a whole.

The 26 families who kept financial records had somewhat higher incomes, higher assessed land values, and more highly educated wives than the 62 families who agreed to keep records but who did not continue for the full period of time.

Records from the families were considered relatively accurate on the basis of amount of unaccounted receipts and expenditures, which were low. Another indicator of accuracy of reporting was the fairly high correlation between the reported and assessed property values for those families for whom comparable data were available.

In summary, families in this study experienced a period of transition and coped successfully with a family change in the financial realm.

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APPENDIX A. FORM USED FOR RECORDING EXPENDITURES AND RECEIPTS.

Month____________________, 19___

EXPENDITURES AND RECEIPTS

LINE	DAY	ITEM DESCRIPTION	EXPENDITURES Amount	RECEIPTS Amount	CREDIT CODE	OFFICE CODE (leave blank)
1			$	$		
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Cash on hand and in checking account at end of month $______________ Date______________

CREDIT CODE

5 = revolving charge
8 = installment payments, payments on cash loans
9 = debt taken on

Family No.______________

APPENDIX B. MAJOR CATEGORIES.

Receipts

Earned Income: Earnings from employment of family members.

Unearned Income: Social and private insurances, support payments, pensions, windfalls.

Refunds: Taxes and other sources.

Withdrawals: From assets, such as bonds, stocks, property.

Money Borrowed: Cash loans from private and institutional sources for use by family.

Return on Investments: Dividends, rents, interest.

Business Receipts: Principal and secondary self-employment or business.

Consumption Expenditures

Food: Home use, home food production, food away from home, and alcoholic beverages.

Housing: Current mortgage payments, rent, improvements and repairs, escrow, real estate taxes, insurance.

Household Operation: Services performed by outsiders, supplies for general household use, and utilities.

Furniture, Equipment, and Tools: Purchase, care and repair of equipment and furniture, by productive and nonproductive categories.

Clothing: Apparel, accessories, and their repair.

Transportation: Automobile payments, repair and maintenance, insurance, and taxes; other transportation.

Recreation: Paid admissions; dues and fees; acquisition, repair and operation of recreational durables; musical instruments (except furniture); pets; vacation expenses.

Education: Formal and informal forms of advancement.

*College Expenses:** All expenses for college or training beyond high school, including room, board, clothing, fees, tuition.

Health or Medical: Professional, hospital, and clinical services; drugs and supplies; insurance.

Personal: Allowances, personal services, and supplies.

Other Outlays

Gifts and Contributions: Personal allocations to relatives and non-relatives; tax deductible and non-tax deductible allocations to organizations.

Taxes: Income and other taxes not directly allocable to specific items or categories.

Family Insurance and Investments: Pensions, Social Security, life insurance and annuities, interest accounts, stocks and bonds, personal loans, real estate (except current mortgage payment on home).

Money Borrowings Repaid: Payment on non-mortgage debt.

*This category was added July 1, 1964; if any children were in college prior to that time, expenses were included in other categories.

APPENDIX C. DEFINITIONS.

Cash Transaction: Cash paid or a 30-day charge.

Fixed Commitments: Definite obligations against future income, with the exception of installment payments and revolving charge accounts. Major items included are deductions from earnings.

Revolving Charge: A method providing for an established limit of debt, with a plan for repayment of debt incurred; most frequently used for non-durable items. Credit costs are paid on the unpaid balance.

Installment Debt: Short-term contractual arrangement, difference in debt assumed and debt repaid provides balance on debt. Only household debt included.

Mortgage Debt: Obligation for housing and other items; summarized on net worth but not on record processed monthly and annually.

Business Debt: Recorded as business receipts and expenditures. Business debt was not included in family debt balance.

Family Member: All persons dependent on the family income.

Relative: A related person not dependent on the family income; for example, a child who is away from home and providing most of his own support is considered a relative.

Non-relative: Any other person.

APPENDIX D. MONTHLY SUMMARY OF RECEIPTS AND EXPENDITURES MAILED TO FAMILIES.

FAM	MO	YR		PRESENT	YEAR SUM
	6	64	EARNED INCOME	855.27	3499.45
			OTHER INCOME	0.00	276.15
			REFUNDS	0.00	52.10
			WITHDRAWALS	0.00	535.00
			MONEY BORROWED	30.68	496.76
			RET ON INVEST	0.00	19.65
			BUSINESS RECPTS	0.00	75.00
			TOTAL RECEIPTS	885.95	4954.11
			FOOD	169.67	999.43
			HOUSING	60.90	192.64
			HOUSE OPERATION	60.10	398.60
			FURN EQUIPMENT	0.00	185.31
			CLOTHING	27.47	285.62
			TRANSPORTATION	63.07	746.17
			RECREATION	3.98	88.96
			EDUCATION	28.50	55.09
			HEALTH MEDICAL	24.92	250.64
			PERSONAL	23.54	160.48
			GIFTS CONTRIBUT	60.91	746.17
			TAXES	91.23	136.97
			FAM INVESTMENTS	31.43	592.45
			MONEY REPAID	50.42	204.11
			BUSINESS INVEST	0.00	0.00
			BUSINESS EXP	4.00	50.70
			TOTAL EXPEND	700.14	4691.95
			CASH ON HAND	324.14	
			DEBT ASSUMED	30.68	
			DEBT REPAID	50.42	
			BALANCE ON DEBT	542.83	
			FIXED COMMITS	219.82	984.74
			UNCLASSIFIED	0.00	0.00
			UNACCOUNTED RECEIPTS	12.91	

The State Is the Campus for Agricultural Research and Development

Ohio's major soil types and climatic conditions are represented at the Research Center's 12 locations. Thus, Center scientists can make field tests under conditions similar to those encountered by Ohio farmers.

Research is conducted by 13 departments on more than 6200 acres at Center headquarters in Wooster, ten branches, and The Ohio State University.

Center Headquarters, Wooster, Wayne County: 1953 acres

Eastern Ohio Resource Development Center, Caldwell, Noble County: 2053 acres

Jackson Branch, Jackson, Jackson County: 344 acres

Mahoning County Farm, Canfield: 275 acres

Muck Crops Branch, Willard, Huron County: 15 acres

North Central Branch, Vickery, Erie County: 335 acres

Northwestern Branch, Hoytville, Wood County: 247 acres

Southeastern Branch, Carpenter, Meigs County: 330 acres

Southern Branch, Ripley, Brown County: 275 acres

Vegetable Crops Branch, Marietta, Washington County: 20 acres

Western Branch, South Charleston, Clark County: 428 acres