Net Worth Change: Beginning and Expanding Life Cycle Stages

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Studying change in net worth enables assessment of a family's financial progress. Longitudinal panel data from 136 couples in the first 11 years of marriage were used in this study. Influences of selected variables on percentage change in net worth were examined. Change in household income and wife's change in educational level were related negatively to percentage change in net worth. Implications for researchers and for financial educators, counselors, and planners are discussed.

KEY WORDS: family life cycle, financial management, net worth

What makes the difference between families who do well financially and those who do not? Traditionally, financial educators and counselors have advised families to utilize financial management practices to enhance their financial situation. Recommended practices include: (a) develop spending plans, (b) keep records, (c) save regularly, and (d) practice wise consumption. Research about the effectiveness of these practices in making a difference in a family's financial situation has been sparse, largely because longitudinal data have not been available. To help fill this gap in knowledge, this study examines change in family financial situation, as measured by percentage change in net worth, for beginning and expanding families. It assesses the impact of financial management, in relation to other

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factors, on percentage change in net worth. Longitudinal data are used.

Conceptual Model and Relevant Literature

A family's financial situation can be assessed in several ways. Previous studies have used net worth (Bauer & Dunsing, 1983; Foster, 1981; Foster & Metzen, 1981b; Hanna & Prather, 1989; Titus, Fanslow, & Hira, 1989), dollar change in net worth (Foster, 1981; Foster & Metzen, 1981a), asset ownership (Hira, 1987), and level of savings (Avery & Kennickell, 1991; Chang & Hanna, 1994; Davis & Schumm, 1987). Net worth, assets minus liabilities, measures the strength of the family's situation at a given point in time and is useful in assessing the family's level of living (Williams & Manning, 1972). Change in net worth assesses the family's financial progress (Kyrk, 1953). A positive change is evidence of increased wealth, while a negative change represents dissavings or indebtedness. Asset ownership indicates a family's reserves for financial emergencies as well as the ability to purchase durable goods on a cash, rather than credit, basis (Hira, 1987). Level of savings, as measured by Davis and Schumm (1987), consists of the amount a family was able to save or invest in a 12-month period. Avery and Kennickell (1991) measured savings as change in wealth; Chang and Hanna (1994) used net increase in the amount of wealth, excluding the home.

Net worth encompasses both assets and liabilities, thus giving a more inclusive picture of the family's financial situation than either asset ownership or level of savings. The latter two measures ignore demands on assets that liabilities represent. Thus, neither asset ownership nor level of savings truly represents resources available to meet a financial emergency. Net worth by itself, however, is a static concept in that it measures a family's financial situation as of a certain date. Net worth comparisons at two points in time enable assessment of the family's financial situation in a dynamic sense. Thus, percentage change in net worth was chosen for this study as the best measure of family financial situation. Knowing what factors influence percentage change in net worth can help financial educators, counselors, and planners to advise families on useful practices to increase net worth over time.

Deacon-Firebaugh Resource Management Model
The conceptual model for this study is the Deacon-Firebaugh Resource Management Model (Deacon & Firebaugh, 1988) consisting of inputs, throughputs, and outputs (see Figure 1). Inputs are demands and resources which are transformed into outputs in the form of met demands and used

Figure 1.
Deacon-Firebaugh Resource Management Model

resources. For example, inputs for many families are income and education (resources) and increased net worth (goal). Financial management practices, the throughputs, transform these inputs into the output, percentage change in net worth. Thus,the Deacon-Firebaugh Resource Management Model is especially useful in understanding the role of financial management practices in determining the differences between families who do well financially and those who do not. Other researchers have used the model as a framework to study net worth (Titus, Fanslow, & Hira, 1989) and savings (Davis & Schumm, 1987).

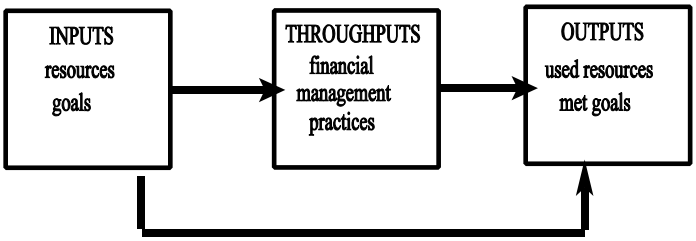
As indicated in Figure 1, both inputs and throughputs affect outputs. Throughputs have a direct effect. Inputs appear to have an indirect effect on outputs but a direct effect on throughputs. Thus, there appear to be both direct and indirect relationships between the inputs and outputs in addition to the direct relationships between inputs and throughputs and between through-puts and outputs. The literature, however, has been devoted largely to the direct relationship of inputs to

outputs. Also, throughput measures in available data sets were limited. Thus, the decision was made to limit this study to the direct effects of inputs and throughputs on the outputs (see Figure 2).

Input-Output Relationships

Output variables previously studied include net worth, change in net worth, asset ownership, and level of savings. Because these are closely related concepts, results of research using any of these concepts as dependent variables were used to formulate some of the hypotheses. Directional relationships also were hypothesized based on the conceptual model. Table 1 is a summary of the hypothesized relationships.

Figure 2.
Modified Deacon-Firebaugh Resource Management Model



Variables with a positive relationship with at least one of the output variables included (a) number of years lived in house (Bauer & Dunsing, 1983), (b) income (Avery & Kennickell, 1991; Bauer & Dunsing, 1983; Davis & Schumm, 1987; Foster, 1981; Foster & Metzen, 1981b; Hira, 1987), (c) change in family income (Foster, 1981; Foster & Metzen, 1981a), (d) wife's education (Davis & Schumm, 1987; Foster, 1981; Foster & Metzen, 1981b), and (e) husband's education (Davis & Schumm, 1987). Negative relationships were found with (a) household size (Davis & Schumm, 1987; Titus, Fanslow, & Hira, 1989), and (b) wife's income (Foster, 1981; Foster &

Metzen, 1981b). All of these variables are classified as inputs in the model.

As inputs, these variables represent resources or demands that can be transformed into outputs; that is, met demands or used resources. Income, change in income, wife's education, and husband's education are all resources that can be used to meet demands. Thus, a positive relationship is expected. Number of years lived in house represents used resources that can add to home equity. Further, more years in residence, whether for renter or homeowner, lessens moving expenses, freeing funds for net worth accumulation.

Table 1
Hypothesized Relationships between Independent Variables and Percentage Change in Net Worth

Input-Output Relationships	
Number of Years Lived in Current Home	+
Income	+
Change in Household Income	+
Wife's Educational Level--W17	+
Husband's Educational Level--W17	+
Wife's Change in Educational Level	+
Husband's Change in Educational Level	+
Wife's Income	-
Parental Help at Marriage	+
Wife's Attitude Toward Saving	+
Husband's Attitude Toward Saving	+
Priority of Savings	+
Number of Years Wife Worked	+
Wife's Type of Labor Force Participation	+
Change in Household Size	-
Husband's Age at Marriage	+
Wife's Age at Marriage	+
Throughput-Output Relationships	
Average Number of Credit Cards	+
Presence of a Savings Plan	+
Extent of Expenditure Plan	+

Wife's income also represents a resource, but because the families in this study are in the beginning and expanding stages of the life cycle, the wife's income is more likely to be a resource to meet consumption demands rather than for net worth accumulation. Work-related expenses could diminish asset accumulation, especially those related to human capital development. Household size, on the other hand, represents demands on resources for consumption purposes, decreasing level of resources available for net worth accumulation and resulting in a decreased percentage change in net worth. A negative relationship is expected for both wife's income and household size.

Other inputs with positive relationships included (a) wife's change in educational level, (b) husband's change in educational level, (c) parental help at marriage, (d) wife's attitude toward saving, (e) husband's attitude toward saving, (f) priority of savings, (g) number of years wife worked, (h) wife's type of labor force participation, (i) husband's age at marriage, and (j) wife's age at marriage. No previous studies were found which used these variables. Change in education for both husband and wife and the wife's labor force participation variables represent resources and are means to increase net worth via human capital improvement. Age at marriage, too, is an indicator of the human capital stock (resources) of the couple. Older individuals would be more likely to have higher incomes and to know more ways to increase net worth than younger individuals. Further, they would be more likely to have resources at the time of marriage that could be used as leverage in building net worth. Parental help at marriage represents a resource that can assist the young couple in establishing a household and a base on which to build net worth. Positive attitudes, a psychological type of resource, are likely to result in positive actions. Thus, a positive attitude toward saving and treating savings as a priority are more likely to result in increased net worth.

Studies of Throughput-Output Relationships

Only two studies were found which examined the relationship between throughputs and outputs. Hira (1987) found a positive relationship between number of credit cards used and asset ownership. Credit cards help transform inputs into outputs by enabling the family to acquire goods with potential to increase net worth. More credit cards represent access to more resources for transformation. Titus, Fanslow, and Hira (1989) found that net worth was higher when the family used optimum financial planning practices. Savings plans and expenditure plans are ways to transform resources into outputs. They

enable families to exercise control over resources to result in positive outcomes such as increased net worth.

Methods

Data

Data are from the University of Illinois Panel Study on Consumer Decisions and Asset Management. The original panel sample was 311 households in Peoria and Decatur, Illinois, in which the couple had married in the summer of 1968 and in which the husband was aged 30 or less at the time of marriage (Survey Research Laboratory, n.d.). The couples were interviewed a total of 18 times at intervals approximating six months in length between fall 1968 and spring 1981 (Ferber & Lee, 1974; Schaninger & Buss, 1986). Amount of time between waves differed as funding was available. The first 17 waves of data were used for this research, which spanned the time period from fall 1968 to spring 1980. This represented families in the beginning and expanding life cycle stages. Only couples who remained married and who remained in the sample for the first 17 waves were retained for the current analysis. This resulted in 136 cases.

Sample Characteristics

At the time of the first interview, the average husband was aged 23.0 and had received at least a high school diploma. The average wife had the same educational level but was younger than her husband (20.7 years). Consistent with any panel, there were changes over time, and these are reported for the first interview (Wave 1) and the last interview (Wave 17). Mean household size changed from 2.1 members to 4.0. Estimated income changed from $12,346, on average, to $27,992. Average family net worth increased from $3,302 to $28,427.

Coding of Variables

The dependent variable, percentage change in net worth, was calculated in a series of steps. Net worth was defined as the value of real and financial assets minus debts. Real assets were equal to the sum of house value, automobiles, and durable goods costing more than $50. Inflation occurred during the time period of this study, but it was assumed to impact the families similarly as they were all in the same life cycle stage and lived in the same area.

Data on house values were collected at periodic intervals. Purchase price of the house, rather than current market value, was collected in the survey. Thus, purchase price was used to represent house value. Although this is not the best way to approximate house value, it is the best given the available data. Inasmuch as respondents lived in the same general area, though, changes in market value relative to purchase price would affect respondents similarly. There would, however, be some inflation in value of assets for home purchasers relative to those remaining in their homes. This is a limitation of this study.

Durable goods data were collected in each wave by asking the couple which durable goods they had purchased since the last interview and purchase prices of these durable goods. The value of each durable good was equal to the price paid for the most recent purchase, as it was assumed that families would not own duplicates of these goods. This method is similar to that used by Graham and Bradley (1984) and represents a wealth of information not generally available to researchers.

Automobile data were collected in a way similar to that used for durable goods. Data on whether the automobile was a replacement or an addition were utilized to determine the number of automobiles in the household. Purchase prices were used for the value of automobiles. Thus, a family could own an automobile that was several years old, and the original purchase price would still represent its asset value. This, of course, is not consistent with the well-known fact that automobiles depreciate in value fairly rapidly. However, the data available on all durable goods ownership are regarded as the most complete even with this source of potential error, and the valuation procedure follows that of Graham and Bradley (1984).

Data on financial assets and liabilities first were collected in Wave 3 at the end of the first year of marriage and collected again at periodic intervals during the panel study. Net worth figures were calculated from Wave 3 data and from Wave 17 data, representing a point in time 11 years after Wave 3. Percentage change in net worth was calculated by subtracting net worth in Wave 3 from that in Wave 17, then dividing by net worth in Wave 3 and multiplying the result by 100.

Independent variables

Demographic variables used in the present study represent two types of data, those reflecting the family's status soon after marriage and those reflecting change or total numbers over the 11 years (Wave 1 through Wave 17). Husband's and wife's ages at marriage were measured as continuous variables. Wife's and husband's educational levels in Waves 1 and 17 were measured categorically with 1 = less than high school education, 2 = 1 to 3 years of high school, 3 = high school diploma, 4 = some college or vocational school, 5 = bachelor's degree, 6 = some graduate school, and 7 = graduate degree. Changes in educational level for husband and wife were calculated by subtracting educational levels in Wave 1 from those in Wave 17. Change in educational level variables reflects change in level of education, not in number of years of education. Change in household size was calculated by subtracting number of people in the household in Wave 1 from number of people in the household in Wave 17. Number of years lived in current home was calculated by counting the number of years since the family's last move.

Two variables described wife's labor force participation. The first of these was number of years wife worked, and the other was wife's type of labor force participation. The number of years wife had worked at the time of Wave 17 was measured as a continuous variable. Wife's type of labor force participation indicated whether the wife had worked outside the home mostly part-time, full-time, or not at all during the 11 years of the study. Number of years she had worked full-time and number of years she had worked part-time were calculated. Then it was determined whether number of years worked full-time were more or less than number of years worked part-time. The resulting variable was coded as a set of dummy variables representing mostly part-time employment, mostly full-time employment, or no employment. No employment was the omitted dummy variable.

Several variables related to budgeting attitudes and behaviors were included in the analysis. Extent of expenditure plan was measured in Wave 4, with 0 = little to no planning and 1 = all expenditures planned. This was at the beginning of the second year of marriage and the only time this variable was measured. Wife's and husband's attitudes toward saving were measured in Waves 1, 7, and 10 as ordinal variables. An average of the answers from the three waves was used to represent wife's and husband's attitudes toward saving with 0 = not important and 1 = important. Priority of savings was measured as an imperfect interval scale variable in Wave 5 (following two years of

marriage) with 1 = top priority, 2 = major priority, 3 = low priority, and 4 = no priority or plan. Borgatta and Bohrnstedt (1980) indicate such a scale is appropriate for regression analysis given the robustness of the regression test. Presence of a savings plan was measured in Wave 1 and calculated as a dichotomous variable with 0 = no plan and 1 = some type of plan.

Variables representing economic inputs were included in the analysis. Number of credit cards was measured in Waves 1, 6, 14, 16, and 17, so average number of credit cards was calculated as an average from these waves. Parental help at marriage was collected in the first wave of data and coded as a dichotomous variable with 0 = yes and 1 = no. Wife's income was available only in Wave 17 and was originally coded as ranges, but for this analysis the midpoint of each range was calculated.

Total household income was measured in Waves 7 and 17 as ranges. Midpoints for each range for the income variables were calculated. Household income at the time of Wave 1 was estimated from the Wave 7 income variable using a CPI deflator. This was done because the income variable in Wave 1, derived from subjective reports of future versus present income, appeared inaccurate compared to 1968 national figures for median household income. Change in household income then was calculated as the difference between Wave 17 income and the estimated Wave 1 income. The upper, open-ended income categorys was assigned a value of $45,000.

Data Analysis

Data were analyzed using the multiple regression technique. First, a correlation analysis was performed to determine if any variables were multicollinear. The criterion for multicollinearity was whether two independent variables were correlated at .80 or higher, as suggested in Bohrnstedt and Knoke (1988). Wife's income and total household income in Wave 17 were found to be multicollinear by this criterion. Total household income was dropped from analysis because it was believed that wife's income was more interesting conceptually and that change in household income was useful enough as an income variable.

Cases with outlying values of the dependent variable, percentage change in net worth, were determined by using a scattergraph, as recommended by Blalock (1972). Outlying cases can violate the

assumptions of linearity and can have strong effects on correlation coefficients for the equation. Blalock suggests that a limited number of extreme cases may be excluded from the analysis if the research is primarily focused on less extreme cases. Therefore, eight cases were dropped. Four had values which were exceptionally low; the other four had exceptionally high values for the dependent variable.

A series of two multiple regression analyses using pairwise deletion were performed. Pairwise rather than listwise deletion of missing data was used because of the small number of cases. Initial net worth, household income, wife's education, husband's education, and household size were included as initial value variables in the first analysis to control for the change variables, as suggested by Judge, Hill, Griffiths, Lutkepohl, and Lee (1982). Variables significant at the .10 level or beyond in the first regression analysis were retained for the final analysis. Also retained were the initial value variables corresponding to the change variables included in the final equation. SPSS, a statistical software package, was used to perform the analyses.

Limitations

One of the limitations of the data set was that only three throughput measures were included. Another limitation was that several variables were not present in all waves of data, but were collected periodically or sporadically. Thus, comparisons of variables may be difficult, as they may represent the family's status at different times. For example, the first collection of net worth data was in Wave 3, at the end of the first year of marriage. Because the first three waves of data spanned only one year in length, the researchers decided to use net worth from Wave 3 to describe the family at the beginning of its marriage. The richness of this data set as a source of longitudinal data helps to offset any limitation. A third limitation of the data set was the measure of house value. Purchase price of the house does not take into account equity gained over the years.

Calculation of the estimated Wave 1 income from Wave 7 data using a CPI deflator presents another type of limitation. Although the researchers decided that this variable was less inaccurate than the estimated Wave 1 income variable in the data set, it still may present a source of inaccuracy in the change in income variable.

Results and Discussion

In the initial regression analysis, only three of the independent variables--wife's change in educational level, change in family income, and presence of savings plan--were related significantly to percentage change in net worth. These three variables, as well as initial values of the change variables, were retained in a final regression analysis (Table 2).

Change in household income was the variable with the greatest influence on percentage change in net worth, with a beta of -.34 (p#.01). The next greatest contributor to the variance in percentage change in net worth was wife's change in educational level, with a beta of -.19 (p#.05). Presence of a savings plan was related to percentage change in net worth only at the .10 level of significance, with a beta of -.18. The R^2 for the equation was .18, significant at the .01 level.

As family income over the 11 years of marriage changed positively, families had a smaller percentage change in net worth. This result is in the opposite direction of the hypothesized relationship. The reason for this may be related
to the stage in the family life cycle represented in this sample. Mean age of the youngest child in Wave 16 (spring 1979) was 5.1; 94% of families had a youngest child age 17 or younger and 54% of families had a youngest child less than 6 years of age. The presence of children in the household puts a considerable strain on the family budget. Stampfl (1978) characterized families in the first and second stages of the full-nest life cycle stage as having needs that are expanding faster than income. Given material needs of families with children which consist largely of nondurables, such as food and clothing, net worth is not likely to increase greatly because durable goods and investments may be of lower priority in the budget than nondurables. In addition, the negative relationship between income change and percentage net worth change may be due to perceived security. Families whose incomes increased more may have felt less need to accumulate net worth than those families whose income increase was less. This result, then, suggests consistency with a life cycle model in which the savings ratio is smaller for younger than older households due to lower earning power and higher consumption levels (Ando & Modigliani, 1963; Fan, Chang, & Hanna, 1993; Hanna, Chang, Fan, & Bae, 1993).

Table 2
Final Regression Analysis Results for Determinants of Percentage Change in Net Worth

Variable	*Beta*
Initial Household Income	-.033
Presence of a Savings Plan	-.175*
Wife's Change in Educational Level	-.194**
Initial Net Worth	.113
Wife's Initial Educational Level	.143
Change in Household Income	-.343***
R^2	.184***

* p#.10 ** p#.05 *** p#.01

As wives increased their educational level during the 11 years of marriage, their families had a smaller percentage change in net worth. Again, this result is in the opposite direction of the hypothesized relationship. Some of the money that otherwise would have been accumulated in savings and investments may have gone to pay for the wife's education. An increase in wife's educational level represents an increase in her human capital, and the time and money invested in her education represent human capital investments. Human capital investments are defined as investments of time and other resources to improve future returns to income, household production, or both (Becker, 1975). In the late 1960s and throughout the 1970s, when the data for the present research were collected, women's financial returns from human capital investments were not as great as men's. Between 1970 and 1981, the range of median annual earnings of full-time employed women was between 58.8% and 60.2% of men's annual earnings (Blau & Ferber, 1986). Therefore, the increase in wife's human capital may have contributed more to the efficiency of the household than to income, a contribution that may not be reflected by increased net worth. In addition, the wife's increase in human capital, and thus an increase in general or specific job-related skills, may have been seen by the family as a hedge against an uncertain job market. Accumulation of wealth to provide the family with income in case of the husband's becoming disabled or unemployed may have been considered less necessary if the wife had increased her educational level.

Another explanation lies in the relationship between education and overspending. Bae, Hanna, and Lindamood (1993) found that higher educated consumers were more likely to overspend than less educated consumers. Overspending lowers net worth accumulation, thus confirming a negative relationship between percentage change in net worth and change in wife's educational level.

Families who had some type of plan for savings had a smaller percentage change in net worth than those who had little or no plan for savings. This result was significant only at the .10 level, so it must be interpreted with caution. But, because of the exploratory nature of this research, it is of interest for further study. Also, this was the only throughput variable in the final regression model. One puzzling aspect is that the relationship was in the opposite direction as that hypothesized. There may be reasons for this that have important implications for further study of this relationship. First, the variable measures only presence of a savings plan, not whether the plan was followed by the family. Second, presence of a savings plan was measured only in Wave 1 during the first year of marriage and does not measure presence of a savings plan throughout the 11 years of the study or even implemented later in time. Third, because this question was asked so early in the longitudinal study, respondents may have been biased toward planning changing from non-planners to planners during subsequent years.

Conclusions and Implications

Overall, then, there were differences between those families who did well financially, as exhibited by a positive percentage change in net worth, and those who did not. Unlike what was expected, though, a positive change in income and in wife's change in educational level actually decreased percentage change in net worth. Life cycle stage of the families in the panel and existing economic conditions at the time data were collected may help to explain these. In any event, income and wife's change in educational level do make a difference. Findings for presence of a spending plan suggest that financial management strategies also might make a difference.

Given that only three variables were significant in the final regression analysis, value of the conceptual model used in this study is questioned, especially since the directional relationships were opposite

that hypothesized. The Deacon-Firebaugh Resource Management Model (Deacon & Firebaugh, 1988) has been used by other researchers to study net worth as noted earlier. However, those studies did not set out hypothesized relationships tied to the conceptual model as was done in this article. Thus, this article contributed another aspect of conceptual model testing needed for theory development. More rigorous testing of the model is needed, but this research suggests that hypothesis development based on the model is problematic.

Implications for Practitioners

The most important implications of this research are for financial educators, counselors, and planners. The results can be used to give direction in designing educational programs as well as in individual counseling or planning sessions. An important caveat, however, is that implications of this research are for families in the beginning and expanding stages of the family life cycle because these are the families studied in this project. Certainly, the results may apply to other families as well, but implications cannot be drawn for them with any certainty based on the results of this study.

The fact that net worth increased with decreases in household income is an important consideration in working with beginning and expanding families. This indicates that net worth can increase even though income does not increase as well. Young families, faced with increasing expenses of a growing family, need this type of information. Otherwise, the assumption might be made that such families have no way of saving for the future. As the results of this study show, young families do increase net worth at the same time that pressures on income from increasing expenses are occurring.

Obviously, increased income is not the only way to increase net worth. The most likely possibility is reduction of expenses via change in quantity, quality, and variety of goods and services purchased (Vaughn, 1976). Financial educators, counselors, and planners can help families to find ways to make such reductions. Value clarification and establishment of priorities is an important step in this process. Encouraging families to think creatively in how to reduce quantity of goods purchased is essential. Some families will need to be helped to see how substitutions of borrowed goods or public goods can reduce quantity purchased without sacrificing overall inventory of available goods and services. The increasing popularity of outlet malls, resale

shops, and off-price stores will ease the family's reduction in quality of goods purchased. In some instances, though, improvement in quality might be more efficient in the long run if this means a reduction in quantity purchased overall. Change in variety of goods purchased probably will be a new idea for many families. Too often, people get stuck in patterns of purchasing the same goods and services. Taking up a less expensive hobby is one way change in variety can reduce expenditures.

The relationship between wife's education and net worth is likely a complex one. In this study, wife's education had a negative effect on net worth, but the researchers suggest that this be approached cautiously. As pointed out earlier, the data analyzed in this study were collected during a time when women's education returns were not as great as men's. In the '90s decade, women's income and educational returns are known to be greater. Thus, families considering this way to improve their financial lives should be advised of the costs and benefits of increased income.

Implications for Researchers

First, this study used longitudinal data enabling the researchers to examine percentage change in net worth over time. This type of data is crucial in understanding what factors make a difference in whether families do well financially over time. Noted limitations of the data set used in this study should be avoided if at all possible in designing future longitudinal studies. The data set, however, contains a comprehensive set of financial information that can serve as a model for designing future studies.

Second, income data need to be reported as accurately as possible. Income, in particular, is often difficult to collect because people are reluctant to disclose such information. Consequently, income usually is collected in ranges rather than absolute dollar amounts. This necessitates use of midpoints of each income range, and percentage change of income cannot be calculated. Change in income must be used instead. Percentage of income change is a better measure when studying percentage change in net worth.

Third, some assessment of the percentage of income spent on nondurable goods and services would help to understand what changes in quantity, quality, and variety of goods and services that

families make. This could be a very important influence on percentage change in net worth.

Fourth, in any longitudinal study, questions asked early in the study may bias later results. For example, it is possible in this study that asking respondents in Wave 1 whether they had a plan for spending influenced them to develop such a plan. Effect of bias could be assessed by asking respondents in-depth questions about how they learned about financial management and what influenced them to use various financial management strategies.

Finally, many more financial management behaviors need to be ascertained than were in the data set used in this research. In particular, it needs to be determined whether respondents implement, evaluate, and revise a spending plan, and whether they keep financial records. Then, the role of these recommended practices in accumulating net worth needs to be explored to fully assess determinants of percentage change in net worth. Bae, Hanna, and Lindamood (1993) discuss the possibility that following such recommended practices helps some households avoid overspending. The same needs to be determined for net worth accumulation.

This study provides information useful to financial counseling and planning educators and practitioners. It also contributes to the knowledge base in family financial management. Most of all, it helps in understanding why some families do well financially while others do not.

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