

Adequate Emergency Fund Holdings and Family Type

This study uses the 1992 Survey of Consumer Finances to construct five family types in order to examine its impact on household emergency fund holdings. Other variables in the analysis include age, education and race of the household head, income, debt, saving motive, risk tolerance, and income certainty. Results from the categorical variables indicate that family type as well as race and risk tolerance had a statistically significant effect on the probability of a household having an adequate level of emergency funds. Age and education of the household head are also found to have a positive, statistically significant impact on the probability of household meeting the guidelines for adequate emergency fund holdings.

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All households are vulnerable to many types of unplanned events which, in turn, may require unplanned expenses that can put a strain on household financial resources. For example, these events can include a disruption in income, due to layoff or sickness; or the breakdown of household use assets such as a furnace or a car. Most financial planners recommend that an investment program should include the accumulation of an emergency fund, that is, liquid assets which can be accessed quickly in case of immediate need (Kapoor, Dlabay, & Hughes, 1996).

This paper focuses on family type and the general adequacy of household emergency fund holdings. Specifically, this paper examines what effect household composition has on the probability of meeting a three-month guideline of adequate emergency fund holdings. Other factors pertaining to the household head such as age, education and race, are controlled for as they have been found to affect this probability in previous studies regarding the adequacy of household emergency fund holdings. In addition to variables characterizing the household head, variables measuring income, debt, saving motive, risk tolerance and income certainty were included as they were hypothesized to affect a household's asset accumulation behavior with respect to emergency fund reserves.

Concepts

Definition of Emergency Fund Holdings

A study of the literature regarding emergency fund holdings reveals that there is no universal consensus on either the definition or the standard of adequacy for household emergency funds. Johnson

and Widdows (1985) define emergency funds as financial holdings which are available to cover spending, in the event of an emergency (income disruption) without drastically adjusting the household's current level of living. They outline three measure of emergency fund holdings which vary in degree of liquidity: 1) quick -- assets held in savings, checking and money market accounts, 2) intermediate -- quick assets plus CD's and savings certificates, and 3) comprehensive -- intermediate assets plus the value of stocks and bonds.

Guidelines for Adequacy

Guidelines for the adequacy of emergency funds varies anywhere from two or three months to a year's worth of living expenses (Garman & Forgue, 1994; Dunnan, 1994). Household emergency fund research uses both measures of monthly expenditure and/or income in the assessment and recent studies have tended to adopt a three-month guideline to denote adequacy (Hanna & Wang, 1995, Chang, 1995, Chang & Huston, 1995). This study uses the quick measure of emergency fund holdings and a three-month income reserve is designated to be adequate.

Method

Data and Sample

Data were selected from the 3,906 households in the 1992 Survey of Consumer Finances. The 3889 households with positive income were included in this analysis. In order to use all information from the five implicates included in this data set, the RII technique was employed as outlined in Montalto & Sung (1996).

Measurement of Variables

The dependent variable in this study is the probability of adequacy of household emergency fund holdings. The dummy variable is measured as MEET=1 if a household met the criteria of three-months of income held in liquid assets and MEET=0 if the criteria were not satisfied.

The independent variables included in the analysis which are used to predict the probability of meeting the 3-month emergency fund guideline include both variables related to the household head (age, education, and race) and variables which apply to the household unit (family income, debt, and family type). Age and education are measured by number of years. Race has two categorizations: Black and Non-Black, if the head is a race other than Black. Income is measured as gross income from all sources for a one year period and debt is measured as the total outstanding debt a household unit is carrying at the time of the interview.

Variables which provide insight into possible influences upon the managerial subsystem within the household are saving motive, risk tolerance and income certainty. Saving motive has two categories: one which indicates if emergencies are the primary saving motive and another category for which some other motive was the primary impetus for saving. To measure the household's willingness to assume financial risk, a variable with two categories was created: one in which the household indicated no financial risk and the other capturing those households which were willing to assume at least some financial risk. Income certainty was measured by whether the household indicated they had a good idea of their next year's income or not.

The family type variables are not directly available in the data set, but were constructed by separating households into one of seven categories of family composition. The family type variable was constructed using 12 of the household listing variables which describe the relationship of each member to the respondent. There are 23 relationships which are available for coding purposes. Nuclear families consist of the respondent, the spouse (or partner) and all children (own, step and foster). Single-parent families include the respondent and all children living in the household (own, step and foster). The couple-only family is comprised of the respondent and spouse (or partner). Single person households were divided into two categories: respondents who were employed and respondents who were not employed. Other households capture all combinations of living arrangements which do not satisfy the criteria

established for the four family types outlined above. These "other", or non-traditional families were also separated into two classes based on household size: an "other" category which had 4 or more persons and an "other" category with 2 or 3 household members.

The first four classifications of family type (nuclear, single parent, couple-only and single person) are considered to be primary economic units (PEU) by the SCF. A PEU consists of all the people listed in the household listing who are financially dependent on the respondent of the family unit; where the family unit is defined as a group of persons living in the same housing unit who are related to each other by blood, marriage, or adoption. Couples who are living as married are treated as if they were married. There was no gender restriction imposed. A housing unit is defined as a one-family house or half of a two family house, or an apartment or flat in an apartment house or other building, or a trailer or mobile home (with cooking facilities), or living quarters in back of stores, over garages, etc., or a rooming house. The survey does not sample institutions such as old people's homes, sanitoriums, convents, military bases, dormitories, etc., which contain ten or more unrelated families. The "other" classification may or may not contain PEU's.

Method of Analysis

Logistic regression is used to estimate coefficients of variables hypothesized to affect the household's probability of having adequate emergency fund holdings. The coefficient estimates resulting from a logistic regression in SAS provide estimates which are stated in terms of the natural logarithm of the odds. These estimates are then used to calculate predicted probabilities, the effects of significant independent variables, using mean values.

Results

Descriptive Statistics

Of all the households included in the analysis, 23% met the 3-month emergency fund guideline. On average, household heads were about 48 old, had almost 13 years of formal education, and the majority of heads were of a race other than Black. In terms of family composition, the lowest proportion of families (9%) were single-parent households and the largest proportion (21%) were composed of 2 or 3 members which were did not fit the criteria for nuclear, single-parent, or couple-only arrangements. The majority of all households did not indicate emergencies as a

primary saving motive but did indicate that they had a good idea of their income for the next year. About half of the families in this study indicated that they were not willing to take any financial risk.

Regression Results

Results from the logistic regression are summarized in Table 1.

Table 1
Logistic Regression Results

Variable	Coefficient	p-value
Household Income	-1.544E-7	0.0099
Household Debt	1.096E-8	0.4622
Age of head	0.0457	0.0000
Education of head	0.123	0.0000
Black (race of head)	-0.9812	0.0000
Single Parent	Reference Category	
Nuclear	0.3324	0.1284
Couple-Only	0.5326	0.0164
Single - employed	0.4444	0.0524
Single - not employed	0.4544	0.0521
Other - 4 or more	-0.0034	0.9891
Other - 2 or 3	0.4087	0.0527
Save for emergencies	0.1936	0.0409
Risk Tolerance	0.6072	0.0000
Income Certainty	0.0263	0.7719
Intercept	-5.74	0.0000

Six of the 14 variables included in the model have significant coefficient estimates at the 0.01 level of significance, five are statistically significant at the 0.05 level of significance. Age and education of the household head has a positive effect on the probability of the household having an adequate emergency fund. Household heads who are Black are less likely to meet the 3-month guideline for emergency fund than are heads who are not Black. Compared to single-parent households neither Nuclear or other households with 4 or more members were significantly different. However, all remaining household types were more likely to meet the 3-month guideline compared to single parent families. Households which are willing to accept

at least some degree of financial risk and households which save for emergencies are more likely to meet the 3-month emergency fund guideline.

Effects of Variables

Age was found to have a positive effect on the probability that a household will have adequate emergency fund holdings, *ceteris paribus*. On average, for each year this probability increases by almost one percent. For example, a household which is headed by a 50 year old has a 25% greater likelihood of meeting the 3-month guideline of emergency funds than does a household headed by a 25 year old. Similarly, households which are headed by a more educated respondent are also more likely to have adequate emergency fund holdings, holding all other variables in the analysis constant. For example, a household head with a 4-year college degree is almost 10% more likely to have adequate emergency reserves compared to a household headed by a high school (only) graduate. Finally, in terms of characteristics related specifically to the household head, households with a Black head are more than twice as likely not to meet the 3-month guideline for emergency funds compared to household heads from another race, independent of the effects from other variables included in the model.

Households which are willing to accept at least some financial risk are about 1½ times more likely to have an adequate emergency fund compared to households which are not willing to accept any financial risk at all, again, holding all other variables constant. Households which indicate primary saving motive as emergency funds have only about a 3% greater probability of meeting the 3-month guideline. And, although the coefficient on income is statistically significant the effect, when calculated at mean values, is extremely negligible and therefore is not a substantial factor in determining household emergency fund adequacy behavior.

According to the predicted probabilities, calculated at mean values, couple only, single, and other households with 2 or 3 members are all about two times more likely to meet the 3-month guideline compared to single parent households.

Discussion and Conclusion

The results from this analysis suggest that the household's which have the greatest probability of having adequate emergency fund holdings have a non-Black, relatively old and educated head, and are from a couple only household with at least some willingness

to accept financial risk. Race, age and education of the household head appear to be important factors in determining whether a household will meet the 3-month emergency fund guideline. These findings are consistent with previous studies regarding emergency fund reserves (Chang & Huston, 1995; Chang, 1995; Hanna & Wang, 1995).

The results for risk tolerance are rather interesting. It appears that households which are willing to take at least some financial risk are more likely to have adequate emergency fund holdings as compared to those households which are not willing to take any financial risk. One may expect that households not willing to take financial risk would have more of their assets in liquid form. The results may suggest that a household is not willing to take financial risk until they have a comfortable level of liquid assets. Most financial planners recommend starting an investment program with the accumulation of an emergency fund (Kapoor, Dlabay, & Hughes, 1996).

Why do Black-headed households tend to have a lower probability of having adequate emergency funds than household's headed by someone from another race, holding other factors such as income and education constant? Perhaps, as Chang & Huston (1995) suggest, these families have a lower lifetime income, which is not controlled for in these analyses, and therefore are rational in their behavior to not have adequate emergency funds as defined in this study. Perhaps these families have other alternatives to select from when managing the risk of unexpected events. Or, perhaps there is some other intervening variable that was not controlled for which is responsible for the effect produced by this race variable. Because this result is so consistent across these emergency fund studies, it does seem that further investigation into this matter is warranted.

According to these results, family composition certainly seems to play an important role in the probability of a household having adequate emergency reserves. On average only about one of every 5 households in this sample had an adequate emergency reserve. Given the current economic climate these findings are rather disturbing. Most households in this sample would have much less than a 3-month recovery period if they were to experience a loss of income. It appears that the creation of family types within the data set has been beneficial in this case. Many social policy programs are designed and delivered based on household composition and the results from this study are couched within a compatible format for policy makers to examine. Financial planners and counselors

may also benefit from having results in this form. Family composition, or family type, can provide additional insight into the potential vulnerabilities certain households are most susceptible to. For example, these results suggest that single-parent, financially risk averse families with Black, relatively young and uneducated heads are the households which have the highest probability of not having adequate emergency reserves. The strong relationship between education and the probability of having adequate emergency funds suggests that consumer education programs may be helpful in boosting the number of households which have adequate emergency fund holdings.

References

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Endnote

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