Preparedness for Financial Emergencies: Evidence from the Survey of Consumer Finances

Vibha Bhargava and Jean M. Lown

The 1998 and 2001 Survey of Consumer Finances were used to compare the emergency fund adequacy of households. A low percentage of households met the 2-month, 3-month, and 6-month income guidelines for the quick, intermediate, and comprehensive measures in both years. More than 50% of households did not meet any of the guidelines. There was no difference in likelihood of meeting the guidelines in 1998 and 2001. Results of the logistic regression indicated that age, education, income, marital status, race, homeownership, retired status, self-employment, savings horizon, spending behavior, and risk behavior were significant determinants of the likelihood of meeting the guidelines.

Key Words: emergency funds, financial preparedness of households, savings, Survey of Consumer Finances

Introduction

Lengthy periods of unemployment and income instability, coupled with the rising consumer and mortgage debt burden of American households over the past decade, suggested the need to revisit the topic of emergency fund adequacy. Data from the Federal Reserve Board's Survey of Consumer Finances (SCF) indicated growth in inflation-adjusted family income and net worth from 1998 to 2001. Although debt increased during this time period, housing equity and stock ownership grew at a rate that resulted in a lower debt burden for American families (Aizcorbe, Kennickell, & Moore, 2003). However, during the same period, bankruptcy filings increased by nearly 4% (American Bankruptcy Institute, 2005). Although families had resources such as unemployment insurance, credit cards, and home equity credit to cope with job loss or pay cuts, an adequate emergency fund could have helped alleviate the stress of financial setbacks and avoid foreclosure or bankruptcy. The lower debt burden of American families evident from the SCF in 2001 implies that more American families have the resources to maintain adequate emergency reserves.

The purpose of this research was to compare emergency fund adequacy of households in 1998 and 2001 using the SCF to determine whether the percentage of American households who meet prescriptive guidelines had changed. Have rising consumer and mortgage debt levels and the dramatic economic reversal accompanying the stock market bust of the early 2000s affected emergency fund holdings? This study is timely because data were collected at the height of the stock market and economic boom of the 1990s, and again, 3 years later, after the stock market bubble burst, and the economy entered recession with considerable loss of jobs.

Review of Literature

Measures and Guidelines for Adequacy of Emergency Funds

Johnson and Widdows (1985) conceptualized emergency funds in three graduated stages of liquidity: quick funds that consisted of very liquid assets including checking, savings accounts, and money market funds; intermediate resources that included quick funds plus certificates of deposit; and comprehensive funds that included intermediate resources plus stocks, bonds, and mutual funds. These measures were widely used in previous research. The advantage of conceptualizing emergency funds in this phased continuum is being able to balance the need for liquidity against the desire to maintain real purchasing power, particularly during periods like the early 2000s when interest rates hit 40-year lows. Because inflation

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and taxes reduce the purchasing power of savings, it may not be prudent to maintain 3 months of income or expenses in quick form. Although authors of many mass media articles (i.e., Answers to your money questions, 2003) recommended that emergency funds be held in liquid accounts (quick), a more prudent approach is to hold the funds in a variety of accounts ranging from liquid (low return) to less liquid accounts that pay positive real rates of return (intermediate). Clements (2001) advocated the comprehensive approach to keep up with inflation and taxes because it could be years before the funds are needed. Further, in the event of job loss, all the funds may not be needed immediately as unemployment compensation can cushion the blow, allowing emergency funds to be drawn down gradually.

In order to examine households' preparation for financial emergencies, it is important to determine the appropriate amount of emergency funds. Greninger, Hampton, Kitt, and Achacoso (1996) found strong consensus between financial planners and educators that liquid assets for emergencies (intermediate funds) should equal a minimum of 2½ to 3 months of living expenses. Because the SCF, the national data set most commonly used in emergency fund research, provides income rather than expense data, most previous research has used the benchmark of 3 months of income rather than expenses. According to DeVaney (1994), the 3-month income or expense guideline was based on the average length of unemployment prior to her study. Although some studies used the 6-month guideline, Hanna and Wang (1995) argued that the 3-month guideline was more sensible because of the low likelihood of experiencing a drop in income of 50% or more (except for low-income households and farmers).

Irrespective of the measure and guidelines used for adequate emergency funds, results from most studies indicated that the majority of the households had insufficient emergency reserves. Researchers have consistently reported that only about one third of American households maintained the recommended emergency reserves (Chang, 1995; Chang, Hanna, & Fan, 1997; Chang & Huston, 1995; DeVaney, 1995; Hanna & Wang, 1995; Johnson & Widdows, 1985). Analysis of the 1990 Consumer Expenditure Survey by Hanna, Chang, Fan, and Bae (1993) revealed that only 19% of households had sufficient reserves to cover expenditures for 6 months. Using the 1989 SCF, Zhou (1995) reported that about a quarter of the households met the 6-month guideline for the no-risk and with-risk measures of emergency funds. Over one third (38%) met the 2-month guideline for the no-risk measure of funds and 40% met the 2-month guideline for with-risk funds. Bi and Montalto (2004) reported that about 30% of the households met the 3-month expenditure guideline whereas nearly 43% met the comprehensive guideline.

Factors Influencing the Likelihood of Having Adequate Emergency Reserves

Several researchers have examined the factors that were likely to influence emergency fund holdings of households. Older, more educated households were most likely to have adequate fund holdings (Chang, 1995; Chen & DeVaney, 2001; DeVaney, 1995; Ding & DeVaney, 2000; Hanna & Wang, 1995; Hanna et al., 1993; Huston & Chang, 1997). Non-white households and larger households were least likely to meet the guidelines (Chang, 1995; Chang & Huston, 1995; DeVaney, 1995). Huston and Chang (1997) found that income increased the likelihood of meeting emergency fund guidelines. Household composition was found to be significantly associated with the likelihood of meeting emergency fund recommendations (Chen & DeVaney, 2001; Huston & Chang, 1997). Huston and Chang concluded that single-parent households were least likely to accumulate sufficient emergency reserves. Couple-only, single-person, and other households with only two or three persons were most likely to meet the guidelines. Chen and DeVaney found that younger households with dependent children were less likely to meet the guidelines.

Zhou (1995) found that being older, being self-employed, owning a home, having more access to credit and a higher credit limit, paying off credit card balances each month, and having a higher net worth were positively associated with the likelihood of meeting the 2-month and 6-month income guidelines for no-risk as well as with-risk funds. Having a working spouse was negatively associated with the likelihood of meeting the guidelines. However, Bi and Montalto (2004) reported that households with a spouse or partner employed full-time were more likely to meet the guidelines than households with a spouse or partner employed part-time; single households were 31% more likely to have adequate emergency reserves than households with both spouses employed full-time.

Research results regarding the importance of savings motive, income certainty, and income have yielded contradictory results. Results of most previous studies indicated

a positive correlation between income and meeting the comprehensive guidelines. Chang et al. (1997) proposed that households expecting a decrease in income were more likely to have sufficient emergency funds than households not expecting an income decline. Based on the intermediate guidelines, Huston and Chang (1997) suggested that the relationship with income was affected by the degree of liquidity. Huston and Chang did not find a significant association between savings motive and meeting the emergency fund guidelines. On the contrary, Chen and DeVaney (2001) and Zhang and DeVaney (2004) found a significant positive association between savings motive and the likelihood of meeting emergency fund guidelines. Zhang and DeVaney concluded that the ability to save and the need to save were more powerful predictors than the willingness to save. Bi and Montalto (2004) confirmed that emergency fund adequacy was more a result of the ability to save than the need for the funds.

Chang and Huston (1995) concluded that household preferences were stronger factors than income in determining whether or not households met the guidelines. The first study to address attitudes and behavior related to emergency fund holdings found minimal impact of attitudinal variables on emergency fund holdings (Ding & Devaney, 2000). However, the behavior variable of spending less than income was positively related to emergency fund adequacy. Huston and Chang (1997) and Ding and DeVaney (2000) found that households willing to take at least some financial risk when investing were more likely to meet the guidelines than households unwilling to take financial risks.

Chang et al. (1997) raised the question of whether household behavior was rational in not maintaining the recommended level of emergency funds. The researchers concluded that although nearly 63% of the households did not have enough liquid funds to cover 3 months of income, only those households that were expecting a decrease in their income should hold this level of liquid funds. Those households that were not expecting any drop in income might, in fact, have been behaving rationally by saving less than the guidelines. Hatcher (2000) analyzed whether it was rational to maintain a low-yield emergency fund when a higher rate of return could be earned on illiquid and volatile investments. He concluded that emergency funds were only rational when the rate of return on alternative investments was low and/or when households anticipated frequent emergencies.

Literature Summary

In sum, most researchers have used the SCF data, the criterion of 3 months of income, and the comprehensive asset measure (which included stocks, bonds, and mutual funds) as the criteria for measuring emergency fund adequacy. Fairly consistently from 1977 to 1989, researchers found that about one third of U.S. households met the criterion of 3 months of income whereas one fifth met the 6 months measure. Regardless of the economic cycle or unemployment rate, researchers have reported consistent percentages of households meeting the guidelines.

Based on an Internet search and review of Web-based articles on emergency funds, the quick or intermediate definitions were consistent with how emergency funds were characterized in the popular media. Rarely did consumer advice include stocks, bonds, and mutual funds in the definitions of emergency funds.

Although Hatcher (2000) and Chang et al. (1997) suggested that households may have been making rational decisions to maintain emergency funds at less than the level traditionally prescribed, research results consistently showed that those who maintained the prescribed levels (higher income and education, older, with higher levels of home equity) appeared to be those who needed these funds the least. Many of these households could have borrowed against home equity and their higher education level conferred some degree of job security. Older households have had more time to accumulate other assets, including retirement accounts, that could be a source of funds through loan or liquidation.

Methods

Data and Sample

Data used were from the 1998 and 2001 SCF (Kennickell, 2003a; 2003b). The SCF is sponsored by the Federal Reserve Board and is conducted every 3 years by the Survey Research Center at the University of Michigan. In addition to information on the demographic characteristics of households, the data set contains detailed information on financial characteristics of the households.

After eliminating those households that reported negative income, data for 4,257 households from the 1998 SCF and 4,422 households from the 2001 SCF were included in this study. Because the SCF over sampled relatively wealthy families, appropriate weights were used for the descriptive data to make the sample representative of the U.S. popula-

tion. The data were not weighted for the multivariate analysis. The 1998 and 2001 SCF had five imputations of data to address the problem of missing information on key variables. The repeated-imputation inference (RII) approach was used to combine information from all five implicates and to compute the point estimates, variance estimates, and test statistics (Montalto & Sung, 1996). In the current study, combined results for descriptive and multivariate analysis from the five implicates are reported.

Variables

The dependent variables were whether households met the 2-month, 3-month, and 6-month income guidelines for emergency fund adequacy as measured by quick, intermediate, and comprehensive funds. Nine dummy variables were created to measure whether a household met the guidelines; the variables were coded as 1 if the guidelines were met and as 0 otherwise. Quick emergency funds included checking, savings, and money market accounts; intermediate emergency funds included the quick measure plus certificates of deposit; and comprehensive funds included intermediate funds plus stocks, bonds, and mutual funds.

Based on previous research, the independent variables expected to have an effect on the likelihood of meeting the guidelines included age, education, employment status, occupation, marital status, race, household income, and household size. Whether the household expected changes in next years' income captured income certainty. Some of the behavioral aspects likely to influence adequacy of emergency funds were captured by savings behavior, spending behavior, risk tolerance, and attitude of the respondent toward the use of credit. The measurement of variables is presented in Table 1.

Data Analyses

Descriptive and multivariate analyses were used. The characteristics of households meeting the emergency fund guidelines in 1998 were compared to households meeting the guidelines in 2001. Logistic regression was used to identify the factors significantly associated with the likelihood of meeting the 2-month, 3-month, and 6-month guidelines for the quick, intermediate, and comprehensive measures of emergency fund holdings in 1998 and 2001. Logistic regression was appropriate because the dependent variable was binary (i.e. whether or not the household met the guidelines). Nine logistic regression models were estimated for each year.

Table 1. Measurement of Variables

Variables	Measurement
Demographics	
Age	Age of the respondent
Years of education	Number of years of education completed
Income ($)	Household annual gross income
Household size	Number of financially dependent people in the household
Marital status	
Married	1 if married; 0 otherwise
Separated	1 if separated; 0 otherwise
Divorced	1 if divorced; 0 otherwise
Widowed	1 if widowed; 0 otherwise
Never married	1 if never married; 0 otherwise
Race	
White	1 if White; 0 otherwise
Hispanic	1 if Hispanic; 0 otherwise
Black	1 if Black; 0 otherwise
Other	1 if other; 0 otherwise
Employment status	
Employed	1 if employed; 0 otherwise
Retired	1 if retired; 0 otherwise
Other	1 if unemployed, temporarily laid off, student, homemaker, disabled, and other; 0 otherwise
Self-employed	1 if self-employed; 0 otherwise
Occupation	
Managerial or professional	1 if in managerial and professional occupations; 0 otherwise
Other white-collar	1 if other white-collar worker; 0 otherwise
Blue-collar	1 if blue-collar worker; 0 otherwise
Homeowner	1 if owns a home; 0 otherwise
Savings horizon	
1 year or less	1 if next few months to next year are important in planning for saving and spending; 0 otherwise
1 to less than 5 years	1 if less than 5 years are important in planning for saving and spending; 0 otherwise
More than 5 years	1 if more than 5 years are important in planning for saving and spending; 0 otherwise
Spending behavior	
Spend more than income	1 if monthly expenses exceed monthly income; 0 otherwise
Spend equal to income	1 if monthly expenses are equal to monthly income; 0 otherwise
Spend less than income	1 if monthly expenses are less than monthly income; 0 otherwise
Certain about income	1 if respondent has good idea of next year's income; 0 otherwise

Table 1 (continued). Measurement of Variables

Variables	Measurement
Risk behavior	
Substantial risk	1 if respondent is willing to take substantial financial risk; 0 otherwise
Above average	1 if respondent is willing to take above average financial risk; 0 otherwise
Average risk	1 if respondent is willing to take average financial risk; 0 otherwise
No risk	1 if respondent is willing to take no financial risk; 0 otherwise
Use of credit	
Good	1 if the respondent says that it is good to buy on credit; 0 otherwise
Bad	1 if the respondent says that it is bad to buy on credit; 0 otherwise
Good and bad	1 if respondent says that it is both good and bad; 0 otherwise

Results

Descriptive Results

The characteristics of the 1998 and 2001 samples are presented in Table 2. With few exceptions, the 1998 sample closely resembled the 2001 sample. The percentage of respondents in managerial or professional occupations was higher in 2001. A higher percentage of 1998 sample reported a savings horizon of less than 5 years. More respondents in 1998 than in 2001 reported that use of credit is bad.

Table 3 shows the percentage of households meeting the emergency fund guidelines in 1998 and 2001. A slightly higher proportion of households met the 2-month, 3-month, and 6-month income guidelines for the emergency fund measures in 2001 compared to 1998, with the exception of the 3-month income guideline for the comprehensive measure. The results indicated that fewer than half of the households met any of the emergency fund guidelines in 1998 and 2001.

Results of Logistic Regression

Table 4 compares the factors associated with meeting the 3-month guidelines for quick, intermediate, and comprehensive measures during 1998 and 2001. Results for the 2-month and 6-month guidelines are available from the authors. Except for a few disparities, the factors affecting the likelihood of meeting the emergency funds guidelines in 1998 and 2001 were consistent. Age and education were positively associated with the likelihood of meeting the guidelines. Income was significantly negatively associated

Table 2. Descriptive Characteristics of 1998 and 2001 Sample (Weighted)

Variables	1998		2001	
	M	*Mdn*	*M*	*Mdn*
Age	48.75	46.00	49.00	47.00
Years of education	13.07	13.00	13.12	13.00
Income ($)	53,026	34,000	67,476	39,000
Household size	2.59	2.00	2.57	2.00
	%		%	
Marital status				
Married	52.65		53.15	
Separated	3.97		2.84	
Divorced	15.05		15.63	
Widowed	10.07		9.38	
Never married	18.25		19.00	
Race				
White	78.01		76.29	
Hispanic	7.07		7.89	
Black	11.73		13.05	
Other	3.19		2.77	
Employment status				
Employed	66.92		69.00	
Retired	19.75		19.16	
Other	13.19		11.84	
Self-employed	11.22		11.66	
Occupation				
Managerial or professional	24.35		27.13	
Other white-collar	14.34		15.39	
Blue-collar	32.18		30.11	
Homeowner	61.51		62.37	
Savings horizon				
1 year or less	28.73		28.84	
1 to less than 5 years	33.11		29.85	
More than 5 years	38.16		41.31	
Spending behavior				
Spend more than income	17.56		17.44	
Spend equal to income	40.53		36.55	
Spend less than income	41.91		46.01	
Certain about income	72.11		70.98	
Risk behavior				
Substantial risk	4.91		4.52	
Above average	17.82		18.27	
Average risk	38.57		37.47	
No risk	38.71		39.75	
Use of credit				
Good	28.75		28.53	
Bad	33.72		30.38	
Good and bad	37.53		41.10	

Table 3. Percentage of Respondents Meeting the 2-, 3-, and 6-Month Guidelines for Quick, Intermediate, and Comprehensive Measures (Weighted)

Guidelines and measures	1998 (%)	2001 (%)
2-month income guidelines		
Quick measure	29.68	31.18
Intermediate measure	34.31	36.18
Comprehensive measure	44.63	45.81
3-month income guidelines		
Quick measure	22.78	23.19
Intermediate measure	27.26	28.03
Comprehensive measure	38.50	38.58
6-month income guidelines		
Quick measure	11.97	13.69
Intermediate measure	17.87	18.29
Comprehensive measure	28.51	28.96

with the likelihood that households would meet any of the guidelines. However, the effect of income was significant only for the quick measure in 1998 and not for 2001. The magnitude of the effects was small for all measures in both years.

Compared to those who never married, married households and separated and divorced households were less likely to meet the emergency fund guidelines. The coefficients were significant for all the guidelines in 1998. In 2001, compared to those who never married, the married were significantly less likely to meet the 3-month income guideline for the intermediate measure and the 6-month income guideline for the quick and intermediate measures. White and other households were more likely to meet the guidelines compared to Black households. In 1998, compared to Black households, Hispanics were more likely to meet the guidelines. However, in 2001 Hispanics households were not significantly different from Blacks.

Retired households were more likely to meet the guidelines compared to other households. Surprisingly, the employed were not significantly different from the other employment category and, in fact, were significantly less likely to meet the 6-month income guidelines for the comprehensive measure in 2001. Compared to those who were not self-employed, the self-employed were more likely to meet the emergency fund guidelines. Compared to those in blue collar occupations, those in managerial and other professional occupations were more likely to meet the guidelines for the comprehensive measure.

Compared to those who were saving for goals more than 5 years in the future, households who were saving for goals less than 5 years ahead were less likely to meet the guidelines. Compared to savers, i.e. those who spent less than their income, those who overspent and those who spent all their income were less likely to meet the guidelines. The risk takers were more likely to meet the guidelines compared to those who did not take any financial risk. Compared to respondents with positive attitudes toward credit use, those who believed that buying on credit was bad or said that it was both good and bad, were more likely to meet the guidelines in 2001. The effect of attitude toward use of credit was insignificant in 1998. Income certainty was not significant in determining the likelihood of meeting the guidelines.

Discussion and Recommendations

The results indicate that the proportions of households meeting the emergency fund guidelines in 1998 and 2001 were similar. Fewer than half of the households met the 2-month, 3-month, and 6-month income guidelines for the quick, intermediate, and comprehensive measures in both years. More than 50% of the households did not meet any of the guidelines. The results of this study are similar to those reported by previous researchers (Chang, 1995; Chang et al., 1997; Huston & Chang, 1997). Despite the dramatic change in the national economy between 1998 and 2001, at the aggregate level there was virtually no change in the proportion of American households that maintained emergency funds. Regardless of the health of the economy, only about one third of households met the prescribed guidelines. In earlier research using the 1992 SCF, Huston and Chang (1997) found that the 3-month income guidelines for quick, intermediate, and comprehensive measure was met by 22%, 28%, and 33% of the households respectively.

The significant determinants of emergency fund holdings were consistent across the years, as well as for the different guidelines and measures within each year. Consistent with previous research, the likelihood of meeting the guidelines was positively associated with the education of the household head (Chen & DeVaney, 2001; DeVaney, 1995; Ding & DeVaney, 2000). Financial counselors and educators should emphasize the importance of emergency funds to less educated households. Consistently, income was negatively related to the likelihood of meeting any of the emergency fund guidelines. Possibly, households with higher income feel more financially secure and thus perceive less need for emergency funds. Household size, as

Table 4. Results of Logistic Regression of Households Likelihood of Meeting the 3-Month Guidelines for Quick, Intermediate, and Comprehensive Measures (1998 *N* = 4,257; 2001 *N* = 4,422)

Variables	Coefficients					
	Quick measure		Intermediate measure		Comprehensive measure	
	1998	2001	1998	2001	1998	2001
Demographics						
Age	0.02**	0.03**	0.03**	0.03**	0.04**	0.04**
Years of education	0.04*	0.02	0.04*	0.02	0.14**	0.11**
Income	-2.0E-7**	-1.1E-7	-2.7E-7**	-1.4E-7**	-2.1E-8	4.1E-8
Household size	-0.01	-0.02	-0.05	-0.03	-0.05	-0.01
Marital status						
Married	-0.58**	-0.24	-0.43*	-0.26*	-0.42*	-0.20
Separated	-0.72*	-0.49	-0.92*	-0.42	-1.04**	-0.63*
Divorced	-0.27	-0.42*	-0.35*	-0.38*	-0.48*	-0.45*
Widowed	-0.18	-0.10	0.08	-0.14	-0.24	-0.30
(Never married)[a]						
Race						
White	0.61*	0.55*	0.76**	0.67**	0.74**	0.64**
Hispanic	0.49*	0.19	0.41	0.21	0.42	-0.03
Other	0.71	0.85*	0.95*	1.03**	0.96*	0.89**
(Black)						
Employment status						
Employed	-0.12	-0.11	-0.09	-0.12	-0.13	-0.25
Retired	0.75**	0.69**	0.72**	0.61**	0.88**	0.70**
Self-employed	0.21*	0.30*	0.14*	0.20*	0.30*	0.38**
(Other)						
Occupation						
Managerial or professional	-0.09	0.14	-0.11	0.12	0.29*	0.35*
Other white-collar	0.08	0.07	0.01	0.07	0.19	0.12
(Blue-collar)						
Homeowner	0.28*	0.28*	0.22*	0.42**	0.58**	0.61**
Savings horizon						
1 year or less	-0.04	0.02	0.04	0.03	-0.19*	-0.09
1 to less than 5 years	-0.14	-0.38**	-0.15	-0.27*	-0.50**	-0.49**
(More than 5 years)						
Spending behavior						
Spend more than income	-0.70**	-0.70**	-0.74**	-0.76**	-0.92**	-0.94**
Spend equal to income	-0.80**	-0.81**	-0.88**	-0.84**	-1.02**	-1.03**
(Spend less than income)						
Certain about income	0.06	0.06	0.09	0.04	0.04	-0.10
Risk behavior						
Substantial risk	0.11	0.31	0.14	0.12	0.71**	0.98**
Above average	0.20	0.36*	0.27*	0.18	1.05**	1.06**
Average risk	0.49**	0.45**	0.53**	0.37**	0.92**	0.85**
(No risk)						
Use of credit						
Bad	0.02	0.26*	0.10	0.23*	0.06	0.31**
Good and bad	0.12	0.20*	0.12	0.15	0.03	0.15*
(Good)						
Intercept	-3.39**	-3.70**	-3.22**	-3.07**	-4.91**	-4.80**
-2 Log L	4179.77	4420.66	4406.20	4641.39	4127.11	4259.68
Likelihood ratio	603.00**	739.78**	818.05**	888.93**	1774.11**	1869.95**

[a]Categories of variables in parentheses are reference groups.
*$p < .05$. **$p < .001$.

measured by the number of financial dependents, was not significant although it was significantly negatively associated with emergency fund adequacy in previous studies (Chang, 1995; Chang & Huston, 1995; Hanna & Wang, 1995). Perhaps shrinking household size compresses variability.

Married households were less likely to meet the guidelines. It is possible that married couple households feel more financially secure due to the employment, or potential employment, of both spouses. Previous researchers reported that marital status does not have a significant effect on emergency fund holdings (Chang & Huston, 1995). This result merits further investigation by including other factors such as the role of risk management behavior in emergency fund adequacy. Divorced households were less likely to meet the guidelines. Divorce negatively affects the financial well-being of households, especially female-headed households. This variable might be reflecting the lower ability of divorced individuals to accumulate emergency funds. Consistent with Chang (1995) and Chang and Huston (1995), Black households were less likely to meet the guidelines compared to White and other ethnic households. Chang and Huston (1995) posited that this may be due to low lifetime incomes. In order to isolate the reason for this finding, future research should include lifetime earnings as well as alternative sources of emergency funds available to Blacks.

Households with a retired head were more likely to meet the guidelines compared to others. This is likely due to both a cohort effect and the higher net worth of retirees. The self-employed were more likely to meet the guidelines compared to employees. Self-employed individuals are likely to have variable incomes and thus may value emergency funds more than wage earners. Consistent with previous studies, homeowners were more likely to have adequate emergency funds. Homeownership captures the wealth level of households, thus indicating that homeowners are financially better off than those who do not own homes. Home equity was positively associated with the adequacy of emergency funds in previous studies (Chang & Huston, 1995).

The significance of variables capturing financial behavior has important implications for financial educators and planners. Households with a longer planning horizon were more likely to meet the guidelines. Not surprisingly, savers were more likely to meet the guidelines compared to those who overspend and do not save. The significance of behavior variables indicate that preferences of the households play an important role in determining financial well-being and thus behavior change may be the key to enhancing financial security. Efforts to improve emergency fund adequacy should focus on educating consumers about financial risks as well as their savings behavior.

Consistent with Huston and Chang (1997), confidence about next year's income did not explain whether the households would meet the guidelines. However, Huston and Chang stated that this SCF variable does not indicate whether the households expect a drop or an increase in their incomes in the coming year. Chang et al. (1997) found that households that expected a 50% or greater drop in their income were more likely to meet the guidelines. Risk-averse households were less likely to meet the guidelines. Chang (1994) found that risk-tolerant people save or invest more. Financial counselors and planners should consider the risk tolerance of households when advising their clients about ways to accumulate adequate emergency funds. Those with negative attitudes toward credit use may be more inclined to save for emergencies to avoid having to rely on credit.

Based on the results of this study and previous research, only about one third of American households maintain 3 months of either income or expenses in a quick or intermediate emergency fund. The percentage of those who meet the guidelines increases when the comprehensive measure is used. A review of textbooks and newspaper and magazine articles indicates that most often an emergency fund is described as readily available liquid funds; the much broader comprehensive definition of emergency funds that includes mutual funds, stocks, and bonds rarely is presented. A Web search using Google.com brought up only a few emergency fund references, none from the Cooperative Extension Service. The articles recommended 3 to 6 months of expenses, rather than income, and generally recommended keeping the funds in money market funds and certificates of deposit, comparable to the quick plus intermediate definitions. The Cooperative Extension Service should ensure that its excellent resources on emergency funds show up on Web searches.

In the wake of recent macro- and micro-economic changes, the results of this study should concern financial planners, educators, and counselors. In case of emergencies such as job loss, uninsured medical expenses, or major home or auto repairs, lack of sufficient emergency funds could be financially devastating. According to the Depart-

ment of Labor, the average time between jobs increased from 13 weeks in 2001 to 18 weeks in 2003; this figure does not include discouraged workers who have dropped out of the labor force (Davey & Leonhardt, 2003). Many workers who find new jobs have had to settle for lower wages and fewer benefits.

In order to assess the financial preparedness of households to face unforeseen circumstances, a more comprehensive measure of financial well-being, including factors like access to credit, likelihood of support from other systems such as family, and subjective wellness, should be examined. With the increased use of credit cards and home equity lines of credit, perhaps there has been a change over the past few decades in how households perceive their need for emergency savings.

In light of the increasing volatility of the U.S. economy, growing consumer and mortgage debt levels, employment insecurity, and reductions in company pensions and employee health benefits, educators and counselors should stress the importance of preparing for financial emergencies through a combination of savings, investments, and home equity lines of credit for homeowners. The results of this study reveal that younger, less educated households and those who overspend should be targeted for financial education. In addition to presenting reasons behind the guidelines, such as statistics on the typical length of unemployment, educators and counselors need to help clients decide how to structure their emergency funds when interest rates on savings instruments are discouragingly low. Contrary to simplistic recommendations to maintain funds in very liquid savings and money market accounts, educators and counselors can explain how to structure emergency funds on a sliding scale, trading off liquidity for higher returns. A money market mutual fund provides a very liquid vehicle for the foundation for an emergency fund. From there, one can add short-term (3-6 months) certificates of deposit and then add less liquid but higher return government I bonds. Although these bonds must be held at least 12 months, they offer higher returns than most certificates of deposit and the advantage of the interest earned is exempt from state income taxes. Some advisors recommend holding most of the emergency fund in stock mutual funds, under the assumption that true emergencies occur rarely and that it is important to keep ahead of inflation and taxes in the long run (Clements, 2001). Bi and Montalto (2004) recommend opening a home equity line of credit before you need it because it may be too late to get approved after a job loss.

The debt burdens of low income households have worsened since 1998 (Aizcorbe et al., 2003). The real challenge for educators and advisors is to facilitate modest savings by those households that are least able to save but most likely to need an emergency reserve. Emergencies are not predictable in frequency or amount, and the average American household has an aggregate debt burden of 14% of disposable personal income (Aizcorbe et al., 2003), perilously close to the 15% ratio recognized as the limits of prudent borrowing. In a study on bankruptcy filers, Getter (2003) found that unanticipated events were more frequently the triggers for bankruptcy filings than heavy debt burdens. As Johnson and Widdows (1985) conceptualized emergency reserves in their study, not all of the emergency funds need to be invested in low interest accounts; it is wise to employ a combination of savings and investment vehicles to balance liquidity with positive real rates of return. The recent growth in home equity lending provides another alternative to emergency funds in the form of a home equity line of credit. Bi and Montalto (2004) suggest that this option is both flexible and more appealing than a large emergency fund.

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