Emergency finance in Australian households
An empirical analysis of capacity and sources

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Abstract *This paper examines demographic and socioeconomic characteristics as predictors of emergency finance in Australian households. The data is drawn from the most recent Household Expenditure Survey Confidentialised Unit Record Files (CURF) and relate to 6,892 probability-weighted households. Emergency finance is defined in terms of the ability to raise $2,000 within one week and its potential sources include own savings and loans from deposit-taking institutions, finance companies, credit cards, family and friends and welfare or community organisations. Characteristics examined included family structure and composition, source and level of household income, age, sex and marital status, ethnic background and housing value. Binary logistic models are used to identify the source and magnitude of factors associated with the ability to raise emergency finance and the likelihood of choosing each method of raising finance. The results indicate that the presence of children, the number of dependents and income-earning units, the age, sex and ethnicity of the household head, dependency upon government pensions and benefits, homeownership and disposable income are significant determinants of the capacity to raise emergency finance. However, the demographic and socioeconomic factors examined are generally better at predicting mainstay sources of finance such as own savings and loans from deposit-taking institutions and credit card usage than loans from family and friends and welfare or community organisations.*

Introduction

Financial wellbeing is an important part of an individual's overall level of satisfaction or happiness. By achieving financial wellness, individuals can be as well off financially as possible given their own circumstances. They are therefore in a better situation to maximise total utility. Under such a situation, each individual's own level of satisfaction is determined after comparing their own subjective needs for financial stability, financial sufficiency and financial standards, with the objective amount of material and non-material financial resources that they possess.

In order to meet the objective criteria for attaining financial wellness, four dimensions of financial planning are identified according to the degree of uncertainty (planned or unplanned financial events) and the time horizon (current period or future periods) (Chieffe and Rakes 1999). In the context of planned financial events, there is *financial management* in the current

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period – including household budgeting and tax planning – and *investing planning* for future periods – including investment in stocks, bonds, mutual funds and real estate and retirement planning. And for unplanned financial events there is *transference planning* for future periods - including estate planning, trusts, business agreements, tax planning and charitable bequests. The remaining dimension recognises that regardless of how well a person has planned elsewhere, in the short term the individual may also need *emergency finance* to meet unexpected financial events (Chieffe and Rakes 1999). These events cover a wide range of financial contingencies, but are most often associated with periods of unemployment, withdrawal from the labour force due to health problems and parenthood, and unexpectedly large commitments for household expenses, including vehicle and housing repairs (Hatcher 2000).

However, many individuals do not feel that accumulating funds for emergencies is as important as accumulating funds for other goals nor planning for emergencies ranked as highly as other areas of financial planning. For example, financial planners generally recommend that individuals accumulate emergency funds of two to three months of expenses or income and keep these in a liquid form such as a savings account, money market fund or certificate of deposit. Most studies have found that few households meet this standard [see, for instance, Chang and Huston (1995), Chang et al. (1997), Huston and Chang (1997)].

As an alternative, and recognising that accumulating funds may not be rational where income is more certain, others suggest keeping open a line of credit in the form of a credit card or home equity loan. Unfortunately, reserving such emergency finance for the purpose intended is often difficult in practice (Chieffe and Rakes 1999). Besides, individuals often find that using credit as emergency finance exposes them to an ongoing cycle of repayment difficulties (Castellani and DeVaney 2001). Together, these mean that few individuals and households have either the required level nor the diversity of sources of emergency finance available consistent with prudent financial planning

Such omissions are important because the absence of emergency finance (as either accumulated funds or available credit) has the potential to adversely affect financial wellbeing. For example, in most developed economies mortgage debt and consumer credit relative to disposable income are at or near all time record highs. One concern of central banks is that a macroeconomic shock or housing sector price collapse with such a high level of indebtedness among households with low levels of emergency finance could lead to increased delinquencies and bankruptcies with a flow on to the health of financial lenders

[see, for example, Maki (2000), Scheherazade (2002), McFarlane (2003), Nickell (2003)]. There is special concern for the rise in unsecured debt among vulnerable lower-income and younger households since these groups often have lower levels of emergency finance.

Similarly, the lack of emergency finance has been recognised as a major contributor to financial stress for individuals and in households (McColl et al. 2002). Garman et al. (1996), for example, has linked the lack of emergency finance (as part of poor financial behaviour) with stress, absenteeism, substance abuse and lower productivity in the workplace. All the same, the availability of some forms of emergency finance is also regarded as social capital in a community and is therefore reflective of social wellbeing in much the same manner that the availability of emergency credit through financial institutions as loans or credit cards is reflective of a fully functioning financial system and potential economic wellbeing. For instance, the Australian Bureau of Statistics (2000, 2003) has identified the ability to source financial assistance from family and friends in its draft social capital indicators.

The purpose of the present paper is to add to the small emergency finance literature an analysis of the capacity and potential sources of emergency finance in Australian households using the unit record files underlying the Australian Bureau of Statistics' (2002) *Household Expenditure Survey*. This survey focuses on the demographic and socioeconomic characteristics of households and can be linked with these households' ability to raise emergency finance and the potential source(s) of this finance, as variously measured. To the author's knowledge this is the first study of its kind in Australia. The paper itself is divided into four main areas. The first section explains the empirical methodology, data and hypotheses employed in the analysis. The second section presents a descriptive analysis of the data used. The third section discusses the results of the empirical estimation. The paper ends with some brief concluding remarks.

Research method

All data is obtained from the Australian Bureau of Statistics' (ABS) (2002) *Household Expenditure Survey* Confidentialised Unit Record File (CURF) and relate to a sample of 6,892 probability-weighted Australian households. The strength of this data is that it is a national survey concerning the demographic and socioeconomic characteristics of Australian households and for the first time includes a number of items to measure emergency finance in households. Unfortunately, it comprises a single cross-section so there is no meaningful way in which household behaviour in the most recent survey can be linked with the results of

earlier surveys and income and expenditure can only be interpreted realistically at the household level. Nonetheless, the dataset employed is comparable to that used in previous work in this area, especially in the United States [see, for instance, Chang and Huston (1995), Chang et al. (1997), Huston and Chang (1997)].

The analytical technique employed in the present study is to specify households' access and preferences for emergency finance as the dependent variable (y) in a regression with demographic and socioeconomic characteristics as explanatory variables (x). The nature of the dependent variable indicates discrete dependent variable techniques are appropriate. Accordingly, the following binary logistic model is specified:

$$\text{Prob}(y = 1) = \frac{1}{1 + e^{-\beta' x}} \qquad (1)$$

where x comprises a set of characteristics posited to influence the availability and choice of emergency finance, β is a set of parameters to be estimated and e is the exponential. The coefficients imputed by the binary logistic model provide inferences about the effects of the explanatory variables on the probability of being able to access emergency finance in a variety of forms. While consistent with previous work regarding the socioeconomic and demographic determinants of access to emergency finance [see, for example, Chang and Huston (1995), Chang et al. (1997), Huston and Chang (1997)], this approach is also similar to research exploring other areas of household financial decision-making including choices of debt finance (Canner and Luckett 1991; Wasberg et al. 1992; Lunt and Livingston 1992; Lea et al. 1993; Zhu and Meeks 1994; Lea et al. 1995; Crook 2001) and the causes of financial stress, delinquency and bankruptcy (DeVaney and Lytton 1995; DeVaney and Hanna 1995; Walker 1996; Domowitz and Sartain 1999; Gropp et al. 1997).

The dataset is composed of four sets of information, all of which are derived from the survey responses. The first set of information provides the dependent variables in the binary logistic model in equation (1). The first question asked in the survey was whether the respondents had the ability to raise emergency money of $2,000 in one week (*EMG*). In the next six questions the respondents were asked whether they would use their own savings as a source of emergency finance (*SAV*) and/or a loan from a deposit-taking institution (including banks, building societies and credit unions) (*DTI*) and/or a high interest loan from a finance company (*FIN*) and/or a loan on a credit card (*CRD*), and/or a loan from family/friends (*FMF*) and/or a loan from a welfare or community organisation (*WLF*) ($y = 1$). For *EMG* the control was that the household was unable to raise emergency finance of $2,000 in one week and for *SAV*,

DTI, *FIN*, *CRD*, *FMF* and *WLF* that the household would not or could not use the stated source of emergency finance ($y = 0$). These seven responses comprise the dependent variables in separate binomial logistic analyses aimed at explaining the ability to raise emergency finance and the likely sources of this finance in Australian households.

The specification of emergency finance used in this study differs from other work in this area. Huston and Chang (1997), for example, used different liquidity criteria corresponding to three months income held in liquid assets (quick emergency funds), liquid assets and savings certificates (intermediate emergency funds) and liquid assets, certificates of deposit, savings certificates and stocks and bonds (comprehensive emergency funds). Alternatively, Chang and Huston (1995) used only the intermediate criterion for emergency funds while DeVaney (1995) specified just the comprehensive criteria. One advantage of measuring of emergency funds in this manner is that it reflects the different opportunity costs associated with holding funds in these forms. For example, in low-income households the opportunity cost of holding assets in liquid form should differ to middle and high-income households because of fewer debt obligations, the presence of bankruptcy as a reasonable alternative in case of financial difficulties and the lower real rates of return available on invested funds. However, emergency funds should also vary according to a range of non-income related factors. For instance, households dependent on the income of a single employed person may need a larger emergency fund, as would households with employees in industries subject to layoffs and redundancies or those with poorer access to credit markets. Regrettably, such specific information relating to household financial assets was not collected in the Australian survey.

The next two sets of information are specified as explanatory variables in the binary logistic regression models. The first of these sets of information relates to household demographic characteristics and the second to socioeconomic characteristics. Starting with the demographic variables, whilst there is no unequivocal rationale for predicting the direction and statistical significance of many of these independent variables, their inclusion is consistent with both past studies of the determinants of household emergency finance (as variously defined) and the presumed interests of policy-makers and other parties. For example, Chang and Huston (1995) used age, education, marital and employment status, occupation and ethnicity in their analysis of emergency fund holding in US households, while Huston and Chang (1997) also included each household's geographic location.

The first six variables concern household structure. These represent households composed respectively of couples and lone parents with children over 15 years of age (*CPO* and *LPO*),

couples and lone parents with children 14 years or younger (*CPY* and *LPY*) and couples and lone parents with children both under 14 years and over 15 years (*CPB* and *LPB*). The control for these variables is single person or couple only households. The next eleven variables relate to the sex, age, marital status and ethnic background of the household head. These are used as proxies for general characteristics including stage of life cycle, unobservable risk preferences and access to labour and credit markets. For instance, Böheim and Taylor (2000) reasoned non-whites may experience financial difficulties because of a lack of familiarity with financial institutions or the differential access to credit, Canner and Luckett (1991) and DeVaney and Hanna (1994) found that divorced or separated and younger persons were more likely to experience financial problems and Huston and Chang (1997) included family structure as an indication of the pattern of financial dependency.

The variables specified are the sex (*SEX*), age (*AGE*) and marital status of the household head (*DIV* and *MAR*), whether the household head was born in Oceania (*OCE*), Europe (*EUR*), the Middle East and North Africa (*MID*), Asia (*ASA*), the Americas (*AMR*) or Sub-Saharan Africa (*AFR*) and the year of arrival in Australia (*RES*). The control variables for *SEX*, *DIV* and *MAR* and *OCE*, *EUR*, *MID*, *ASA*, *AMR* and *AFR* are male, unmarried and born in Australia household heads, respectively. The final two variables are included to reflect additional dimensions of household structure and characteristics. These are the number of income units (*INU*) and the number of dependents (*DEP*) in each household. Ling and McGill (1998), for example, identified dual-wage earning households as an indicator of financial strain along with the number of children, though it is thought that households with more than a single wage earner may have a lower need for emergency finance.

The next group of variables relate to the income characteristics of each household. The first three variables are dummy variables indicating whether the principal source of household income is derived from self-employment (*SEL*), superannuation and investments (*SUP*) or government pensions and benefits (*BEN*). The control is wages and salaries as the principal source of household income. In this instance, and holding income constant, it is hypothesised that the more fixed the level of permanent income, the lower the need for emergency finance. Böheim and Taylor (2000) also hypothesised that the sources of income were a potential indicator of financial stress as a household with a retired head was more likely to report financial difficulties than employees, and observing that in many cases self-employment predated indebtedness because of the interaction between businesses and the collateral provided by housing wealth.

The next two variables indicate whether the principal residence is being bought (*MRT*) or rented (*RNT*) (control is owned outright) (Canner and Luckett 1991). It is generally the case that transaction costs associated with owner-occupation are sizeable when compared to renting, while mortgaged households with large fixed payments and a general lack of mobility may be less able to adjust to changes in employment conditions. It is then hypothesised that the opportunity cost of not holding or being unable to access emergency funds is higher for households with a higher level of indebtedness and asset wealth. Lastly, the estimated value of the principal dwelling (*VAL*) and household disposable income (*DIC*) are also included. All other things being equal, greater wealth and/or income should increase the likelihood that households are able to access emergency finance and to access finance from a wider variety of sources, not least their own savings.

Description of the data

Selected descriptive statistics of the seven dependent variables are provided in Table 1. Overall, 5,603 households (81.30 percent) were able to raise emergency finance of $2,000 in one week, 3,238 (46.98 percent) would use their own savings, 2,126 (30.85 percent) would use a loan from a deposit-taking institution, 599 (8.69 percent) would use a loan from a finance company, 1,694 (24.58 percent) would use a loan on a credit card, 2,094 (30.38 percent) would use a loan from family and friends and 61 (0.89 percent) would use a loan from a welfare or community organisation. The internal reliability of these measures is relatively high (α=0.6094) suggesting broad agreement between capacity and the alternative sources of emergency finance.

<TABLE 1 HERE>

By and large, the distributional properties of the demographic and socioeconomic variables in Table 1 appear non-normal. Most of the values are positively skewed, indicating a long right tail for the continuous variables and the much lower probability of ones as against zeros in the binary variables. Since the asymptotic sampling distribution of skewness is normal with mean 0 and standard deviation of $\sqrt{6/T}$, where *T* is the sample size, then the critical value of 0.0578 indicates that all estimates of skewness are significant at the .05 level or higher. The kurtosis, or degree of excess, in many variables is also generally positive and larger than three, ranging from 5.6480 for *CPO* to 104.4827 for *AMR*, thereby indicating leptokurtic or peaked distributions. The kurtosis for *DIV, EUR, AGE, DEP, RNT, MAR, CPY, SEX* and *MRT* is

significantly less than three indicating relatively flat or platykurtic distributions [since the sampling distribution of kurtosis is normal with mean 3 and standard deviation of $\sqrt{24/T}$ the critical value for kurtosis at the .05 level is 0.1156].

Tests for differences in means and proportions for the explanatory variables in Table 2 indicate statistically significant differences between households that can and cannot raise emergency finance and the different possible sources of such emergency finance. For example, and all other things being equal, households able to raise emergency finance of $2,000 in one week (*EMG*) are more likely to be couples with older children (*CPO*) or with children under 14 years (*CPY*), less likely to be lone parents with older children (*LPO*) and with children 14 years and younger (*LPY*) and 15 years and over (*LPB*), more likely to be male (*SEX*) and older (*AGE*), less likely to be divorced or separated (*DIV*) and more likely to be married (*MAR*). They are also less likely to be from a Middle Eastern (*MID*) or Asian (*ASA*) background or a recently arrived resident (*RES*), more likely to have fewer dependents (*DEP*), rely on self-employment (*SEL*) or superannuation and investments (*SUP*) as the primary source of income and less likely to rely on government pensions and benefits (*BEN*). Lastly, they are more likely to buying their own home (*MRT*) and less likely to be renting (*RNT*) and more likely to have a higher valued residence (*VAL*) and disposable income (*DIC*).

<TABLE 2 HERE>

Households that indicate that they would use their own savings (*SAV*) as a source of emergency finance are significantly more likely to be couples with older children (*CPO*), those that are older (*AGE*) or married (*MAR*) and those reliant on superannuation and investments (*SUP*) and with higher valued residences (*VAL*) and incomes (*DIC*). They are less likely to be drawn from couples with younger children (*CPY*) and both younger and older children (*CPB*), all categories of lone parents (*LPY*, *LPO*, *LPB*), households with female (*SEX*), divorced/separated (*DIV*) and Middle Eastern (*MID*), Asian (*ASA*) and American (*AMR*) born household heads who have recently arrived in Australia (*RES*), those dependent on government pensions and benefits (*BEN*) and those with a larger number of dependents (*DEP*) and a smaller number of income units (*INU*). They are also less likely to be buying (*MRT*) their home and less likely to be renting (*RNT*). Overall, there are significant differences in demographic and income characteristics between households than can and cannot raise emergency finance and the sources of emergency finance they would use across one hundred and twenty-two of the one hundred and eighty-two factors (67.03 percent).

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However, the number of significant differences varies markedly across the different potential sources of emergency finance. For example, there are twenty-two significant differences (84.61 percent) between those households that would or would not use their own savings as a source of emergency finance (*SAV*) but only eight significant differences (30.76 percent) between those that would use a loan from a welfare or community organisation (*WLF*).

Empirical findings

The estimated coefficients, standard errors and *p*-values of the parameters for the binary logistic regressions are provided in Table 3. To facilitate comparability, marginal effects are also calculated. These indicate the marginal effect of each outcome on the probability of being able to raise emergency finance (*EMG*) in the first instance and on the possible sources of emergency finance in the second (*SAV*, *DTI*, *FIN*, *CRD*, *FMF* and *WLF*). Also included in Table 3 is the Nagelkerke R^2 as an analogue for that used in the linear regression model and the Hosmer-Lemeshow statistic and *p*-value as a test for misspecification? Initially, models employing the entire set of explanatory variables were estimated (results not shown), followed by refined specifications obtained using forward stepwise regression with the Wald criteria. In all cases, the refined models were preferred over the full specifications in terms of the trade-off between comprehensiveness and complexity (under the Hannan-Quinn criteria) so only the refined models are shown.

All of the estimated models are highly significant, with likelihood ratio tests of the hypotheses that all of the slope coefficients are zero rejected at the 1 percent level or lower using the likelihood ratio statistic. The results in these models also appear sensible in terms of both the precision of the estimates and the signs on the coefficients. To test for multicollinearity, variance inflation factors (VIF) are calculated and presented in Table 1. As a rule of thumb, a VIF greater than ten indicates the presence of harmful collinearity. Amongst the explanatory variables the highest VIFs are for *RES* (3.2069), *MAR* (3.0706), and *DEP* (3.0554). This suggests that multicollinearity, while present, is not too much of a problem.

<TABLE 3 HERE>

The first model discussed is that predicting the ability to raise emergency finance of $2,000 in one week (*EMG*). In the model, the estimated coefficients for *CPO*, *CPB*, *AGE*, *DIV*, *MID*, *ASA*, *AFR*, *INU*, *DEP*, *SUP*, *BEN*, *MRT*, *RNT*, *VAL* and *DIC* are significant at the 10 percent level of significance or lower and conform to *a priori* expectations. The estimated coefficients

thus indicate that couples with younger and older children, those with divorced or separated household heads, household heads born in the Middle East or Asia, households with a higher number of dependents and income units, those on government pensions and benefits and those buying or renting their home are less likely to be able to raise emergency finance, while older households, those dependent on superannuation and investments and with higher valued homes and larger disposable incomes are more likely to be able to raise emergency finance. The three greatest influences on the ability to raise emergency finance (marginal effect in brackets) are disposable income (*DIC*) (4.2987), superannuation and investments as the principal source of income (*SUP*) (1.7444) and the value of the household's residence (*VAL*) (1.4856).

One interesting finding, even after controlling for income, is that ethnic status appears to play an important role in the capacity to raise emergency finance. Similar results have been observed elsewhere. For example, DeVaney (1995), Chang and Huston (1995) and Huston and Chang (1997) all found that black households in the United States were significantly less likely to meet emergency fund guidelines than other ethnic groups. Chang and Huston (1995: 125) reasoned that black households could have lower expected lifetime income and therefore it would be rational to hold fewer funds in reserve, while Huston and Chang (1997: 44) argued that the eligibility for public assistance might likewise mean a lesser reliance on emergency funds. In Australia it is possible that ethnic households may choose to not hold emergency funds for similar reasons, though cultural norms may also have a role to play.

The next six regressions indicate possible sources of emergency finance for the households. Consider the model where households indicated they would use their own savings as a source of emergency finance (*SAV*). In this regression, the willingness or ability to raise emergency finance using household savings is negatively associated with couples with younger and/or older children (*CPO*, *CPY*, *CPB*), all categories of lone parents (*LPO*, *LPY*, *LPB*), households where the household head is born in Europe (*EUR*), the Middle East (*MID*) Asia (*ASA*) or Africa (*AFR*), those with a larger number of income units (*INU*) or dependents (*DEP*), those reliant on government pensions and benefits (*BEN*) and those buying (*MRT*) or renting (*RNT*) their home. It is positively associated with older households (*AGE*), those with a longer period of residence (*RES*), those dependent on superannuation and investments (*SUP*) and those with a higher valued residence (*VAL*) and disposable income (*DIC*). The primary determinants of the willingness to raise emergency finance using household savings (as measured by the marginal effect) are disposable income (*DIC*), income dependency on superannuation and

investments (*SUP*) and age (*AGE*) with these factors being responsible for increasing the odds of raising emergency finance though savings of 3.38, 1.79 and 1.11 times, respectively.

The results differ dramatically across the various possible sources of emergency finance. For example, where emergency finance could or would be sourced from a loan from a deposit-taking institution (*DTI*) the positive factors are households buying their home (*MRT*) and those with higher disposable incomes (*DIC*) and the negative factors are households with couples with younger children (*CPY*), households headed by females (*SEX*), those born in Asia (*ASA*) and those that are divorced or separated (*DIV*), households with more income units (*INU*), those dependent on superannuation and investments (*SUP*) or government pensions and benefits (*BEN*), those that are renting (*RNT*) and those with higher-valued homes (*VAL*). Alternatively, where a loan from a finance company would be used as a source of emergency finance just four factors are significant: households headed by a person born in Oceania (*OCE*) or the Americas (*AMR*), those dependent on government pensions and benefits (*BEN*) and disposable income (*DIC*). Likewise, only the number of income units (*INU*) and whether the household is renting (*RNT*) are significant influences on the ability or willingness to sources emergency finance from welfare or community organisations (*WLF*).

As a final requirement, the ability of the various models to accurately predict outcomes in terms of emergency finance is examined. Table 4 provides the predicted results for each model and compares these to the probabilities obtained from a constant probability model. The probabilities in the constant probability model are the values computed from estimating a model that includes only an intercept term, and thereby corresponds to the probability of correctly identifying the dependent variable solely on the basis of the proportion in the sample. To start with, consider the model where *EMG* (the ability to raise $2,000 in emergency finance in one week) is specified as the dependent variable. Of the 6,892 households in the sample, 5,603 (81.30 percent) indicated that they could raise emergency finance of $2,000 in one week and 1,289 (18.70) indicated that they could not. Of these the constant probability model correctly predicts 241 cases (18.70 percent) as not being able to raise emergency finance and 4,555 cases (81.30 percent) as being able to raise emergency finance. This represents the correct prediction of 4,796 cases (or 69.59 percent) of all households. In contrast, the estimated model correctly identifies 450 cases (34.91 percent) as not being able to raise emergency finance and 5,376 cases (95.95 percent) as being able to raise emergency finance. Thus, the model correctly identifies 5,826 of the 6,892 households (or 84.53 percent) in terms of their ability or inability to raise emergency finance. This

indicates an absolute improvement of 21.48 percent over the constant probability model (in terms of the number of correct predictions) and a relative improvement of 27.67 percent (in terms of the number of incorrect predictions).

<TABLE 4 HERE>

The estimated models for the possible sources of emergency finance also deliver improvements in correct and incorrect predictions over the constant probability models in each instance. The percentage of correct predictions across these models (percentage of correct predictions for constant probability models in brackets) is: *SAV* 69.70 (50.18), *DTI* 70.01 (57.34), *FIN* 91.29 (84.13), *CRD* 89.3 (62.92), *FMF* 69.97 (57.70) and *WLF* 99.11 (98.25). Of course, these are 'in-sample' predictions and the results could differ if 'out-of-sample' data was made available. There is little relative improvement between the constant probability and estimated models for *FIN* and *WLF* and an obvious factor is the very small proportion of households who would be willing or able to access loans from a finance company or from a welfare or community organisation as a source of emergency finance. In fact, just 0.17, 2.20 and 0.00 percent of the ability and willingness to source emergency finance are predicted correctly when the dependent variable is respectively *FIN*, *FMF* and *WLF*, though 65.38 percent of households are predicted correctly when *SAV* is specified as the dependent variable. This suggests that the demographic and socioeconomic variables specified in the analysis are extraordinarily valuable in predicting the possible sources of emergency finance for core areas such as own savings and loans from deposit-taking institutions, but much less valuable for predicting emergency finance that is sourced from non-core areas such as finance companies, family and friends and welfare and community organisations.

Concluding remarks and policy recommendations

The present study uses binary logistic models to investigate the role of demographic and socioeconomic characteristics in determining the capacity to rise and the likely sources of emergency finance in Australian households. The current paper extends empirical work in this area in at least two ways. First, it represents the first attempt using qualitative statistical techniques to model emergency finance in Australian households, and one of very few studies to model emergency finance outside of the United States. This provides an important starting point for future research in this area. Second, rather than focusing merely on the ability to raise emergency finance as found in previous empirical work, this study examines the putative

sources of emergency finance. No comparable study is thought to exist elsewhere. The evidence provided suggests that the capacity to rise and the possible sources of emergency finance are very much a function of the demographic and socioeconomic characteristics of households.

To start with, it has been shown that primary determinants of the ability to raise emergency finance in Australian households are demographic characteristics. These include the presence of children, the number of dependents and income-earning units, the age and sex of the household head, and also whether the householder was born and a recent immigrant from the Middle East or Africa. It has also been shown that household socioeconomic factors also have a role in understanding access to emergency finance. Key factors here include the decreasing likelihood of accessing funds when a household is dependent upon government pensions and benefits or is buying or renting their own home, while positive factors are associated with higher values of owner-occupied housing and disposable income. By itself, disposable income is a key factor associated with the ability to raise and the likely sources of emergency finance, increasing the odds of raising emergency finance by 4.29 times and the likelihood of accessing own savings and loans from deposit-taking institutions, finance companies, credit cards and family and friends between 1.44 and 3.38 times Housing values are also important in increasing the ability to raise emergency finance, but only increase the odds of raising such finance through own savings and loans from deposit-taking institutions and not from other sources.

A number of broad issues can be presented regarding access to emergency finance. First, in Australia there are already many public programs aimed at helping socioeconomically disadvantaged households, including income support, unemployment, disability and pension benefits, dependent spouse rebates and allowances, child support and endowment and concessional benefits. However, few of these mechanisms provide low cost emergency finance. This is a concern in that even where a household is able to raise emergency finance it may be through relatively high cost sources such as loans on credit cards or finance companies. Second, for the most part it would appear that the capacity to raise emergency finance is very much a function of a household's engagement with the financial sector generally. All other things being equal, a household that draws income from superannuation and investments and/or which owns or is buying their home have greater engagement with the finance sector and are able to gain emergency finance through a variety of mechanisms, including equity loans, fully drawn advances, overdrafts, disposal of marketable financial

assets, etc. This is potential evidence, albeit indirect, of the benefits of the longstanding process of financial deregulation, competitive reforms and product development in the Australian financial system.

Third, the nature of housing occupancy appears to play a major role regarding access to emergency finance. Those buying their home were less likely than homeowners to access own savings or loans from deposit-taking institutions and more likely to source emergency finance from finance companies, credit cards and family friends. Renters were also less likely to access own savings and loans from deposit-taking institutions, finance companies and credit cards than homeowners. This may suggest that government initiatives aimed at increasing homeownership, holding income constant, may provide collateral benefits in terms of improving the accessibility to emergency finance. Finally, in much the same manner that firms have a preference or 'pecking order' for internal over external finance, the only significantly negative rank correlations among the different sources of emergency finance are for those willing to use own savings and loans from deposit-taking institutions, finance companies, family and friends and welfare and community organisations. This suggests that those more able to access internal savings as a source of emergency finance are relatively less willing to access external sources.

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TABLE 1. *Dependent and independent variable definitions and descriptive statistics*

Variable description		Mean	Std. dev.	Skewness	Kurtosis	VIF
Would be able to raise $2,000 in emergency finance in one week	EMG	0.8130	0.3900	-1.6056	0.5781	–
Would use own savings as emergency finance	SAV	0.4698	0.4991	0.1210	-1.9859	–
Would use loan from deposit-taking institution as emergency finance	DTI	0.3085	0.4619	0.8295	-1.3122	–
Would use loan from finance company as emergency finance	FIN	0.0869	0.2817	2.9334	6.6067	–
Would use loan on credit card as emergency finance	CRD	0.2458	0.4306	1.1811	-0.6052	–
Would use loan from family and friends as emergency finance	FMF	0.3038	0.4599	0.8533	-1.2723	–
Would use loan from welfare or community organisation as emergency finance	WLF	0.0089	0.0937	10.4900	108.0718	–
Couple with children over 15 years of age	CPO	0.0949	0.2931	2.7652	5.6480	1.5459
Couple with children 14 years or younger	CPY	0.2010	0.4007	1.4929	0.2287	2.9503
Couple with children both under 14 years and over 15 years	CPB	0.0531	0.2243	3.9867	13.8976	1.8558
Lone parent with children over 15 years of age	LPO	0.0345	0.1826	5.0995	24.0120	1.1776
Lone parent with children 14 years or younger	LPY	0.0467	0.2111	4.2966	16.4656	1.5641
Lone parent with children both under 14 years and over 15 years	LPB	0.0112	0.1051	9.3035	84.5800	1.1993
Sex of household head	SEX	0.3999	0.4899	0.4088	-1.8334	1.2102
Age of household head	AGE	8.8906	3.2014	0.2617	-0.7170	2.5615
Marital status of household head – widowed, divorced or separated	DIV	0.2108	0.4079	1.4182	0.0113	2.5245
Marital status of household head – married or de facto relationship	MAR	0.6346	0.4816	-0.5594	-1.6876	3.0706
Country of birth of household head – Oceania (excluding Australia)	OCE	0.0290	0.1679	5.6128	29.5122	1.4621
Country of birth of household head – Europe	EUR	0.1685	0.3743	1.7721	1.1405	1.8931
Country of birth of household head – Middle East and North Africa	MID	0.0116	0.1071	9.1213	81.2215	1.1719
Country of birth of household head – Asia	ASA	0.0506	0.2193	4.0998	14.8128	1.9947
Country of birth of household head – North and South America	AMR	0.0091	0.0952	10.3176	104.4827	1.1525
Country of birth of household head – Sub-Saharan Africa	AFR	0.0094	0.0967	10.1531	101.1145	1.1651
Year of arrival in Australia of household head	RES	0.4936	1.0279	2.6119	6.7152	3.2069
Number of income units in household	INU	1.2555	0.5723	2.6112	8.1157	1.5248
Number of dependents in household	DEP	0.7567	1.1077	1.3834	1.4211	3.0554
Principal source of household income – self employed	SEL	0.0644	0.2455	3.5492	10.5999	1.0611
Principal source of household income – superannuation and investments	SUP	0.0718	0.2582	3.3174	9.0080	1.3392
Principal source of household income – government pensions and benefits	BEN	0.2631	0.4403	1.0765	-0.8413	2.0314
Nature of occupancy of principal dwelling – being bought	MRT	0.3175	0.4655	0.7844	-1.3851	1.6927
Nature of occupancy of principal dwelling – rented	RNT	0.2869	0.4523	0.9427	-1.1116	2.3392
Estimated value of principal dwelling	VAL	1.3705	1.4493	2.6847	18.2623	1.7282
Household disposable income	DIC	0.7220	0.5005	0.5453	9.2396	1.8249

Notes: VIF – variance inflation factor. Critical values for significance of skewness and kurtosis at the .05 level are 0.0578 and 0.1156. Dependent variables are binary variables: would be able to raise $2,000 emergency finance in one week (EMG), would use own savings as a source of emergency finance (SAV), would use loan from a deposit-taking institution as a source of emergency finance (DTI), would use high-interest loan from finance company as a source of emergency finance (FIN), would use loan on credit card as a source of emergency finance (CRD), would use loan from family and friends as a source of emergency finance (FMF) and would use loan from welfare or community organisation as a source of emergency finance (WLF). The control for the family structure dummy variables (CPO, CPY, CPB, LPO, LPY, LPB) is couple only or single person household; the control for sex of household head (SEX) is male; age of household head is defined in fifteen ascending age groups from under 14 years to 75 years or over; control for marital status of household head (MRT, DIV) is never married or single; control for country of birth of household head (OCE, EUR, NID, ASA, AMR, AFR) is born in Australia; year of arrival of household head is from 1981 onwards (RES); control for principal source of household income (SEL, SUP, BEN) is salaries and wages; control for nature of occupancy (MRT, RNT) is owned outright. Estimated value of dwelling in hundred thousands of dollars, household disposable income (weekly) in thousands of dollars.

TABLE 2 *Tests for differences in means and proportions for independent variables in binomial logistic regressions*

	EMG			SAV			DTI			FIN			CRD			FMF			WLF		
	No	Yes	*p*-value	No	Yes	*p*-value	No	Yes	*p*-value	No	Yes	*p*-value	No	Yes	*p*-value	No	Yes	*p*-value	No	Yes	*p*-value
CPO	0.0489	0.1055	0.0000	0.0796	0.1121	0.0000	0.0812	0.1256	0.0000	0.0904	0.1419	0.0005	0.0877	0.1169	0.0009	0.1019	0.0788	0.0016	0.0954	0.0328	0.0091
CPY	0.1815	0.2054	0.0470	0.2228	0.1763	0.0000	0.1832	0.2408	0.0000	0.1982	0.2304	0.0728	0.1860	0.2468	0.0000	0.1815	0.2455	0.0000	0.2013	0.1639	0.4686
CPB	0.0566	0.0523	0.5311	0.0643	0.0405	0.0000	0.0424	0.0771	0.0000	0.0516	0.0684	0.1167	0.0487	0.0667	0.0077	0.0550	0.0487	0.2717	0.0528	0.0820	0.4155
LPO	0.0489	0.0312	0.0062	0.0435	0.0244	0.0000	0.0378	0.0273	0.0194	0.0353	0.0267	0.2209	0.0373	0.0260	0.0153	0.0342	0.0353	0.8087	0.0347	0.0164	0.4358
LPY	0.1202	0.0298	0.0000	0.0764	0.0133	0.0000	0.0581	0.0212	0.0000	0.0499	0.0134	0.0000	0.0539	0.0248	0.0000	0.0444	0.0521	0.1786	0.0461	0.1148	0.1011
LPB	0.0279	0.0073	0.0000	0.0192	0.0022	0.0000	0.0128	0.0075	0.0338	0.0116	0.0067	0.1711	0.0139	0.0030	0.0000	0.0102	0.0134	0.2761	0.0111	0.0164	0.6968
SEX	0.5299	0.3700	0.0000	0.4395	0.3552	0.0000	0.4368	0.3170	0.0000	0.4078	0.3172	0.0000	0.4269	0.3170	0.0000	0.3950	0.4112	0.2075	0.3995	0.4426	0.4938
AGE	8.0303	9.0885	0.0000	8.2354	9.6300	0.0000	9.0762	8.4746	0.0000	8.9660	8.0985	0.0000	9.0637	8.3595	0.0000	9.3093	7.9312	0.0000	8.9016	7.6557	0.0008
DIV	0.3119	0.1876	0.0000	0.2343	0.1844	0.0000	0.2463	0.1312	0.0000	0.2202	0.1119	0.0000	0.2401	0.1210	0.0000	0.2224	0.1843	0.0003	0.2110	0.1967	0.7862
MAR	0.4569	0.6755	0.0000	0.5859	0.6896	0.0000	0.5883	0.7385	0.0000	0.6243	0.7429	0.0000	0.5981	0.7468	0.0000	0.6403	0.6218	0.1443	0.6352	0.5738	0.3214
OCE	0.0310	0.0286	0.6331	0.0309	0.0269	0.3148	0.0281	0.0310	0.5036	0.0272	0.0484	0.0187	0.0281	0.0319	0.4198	0.0267	0.0344	0.0949	0.0287	0.0656	0.2539
EUR	0.1552	0.1715	0.1471	0.1697	0.1671	0.7736	0.1723	0.1599	0.2012	0.1689	0.1636	0.7400	0.1722	0.1570	0.1404	0.1740	0.1557	0.0569	0.1689	0.1148	0.1955
MID	0.0264	0.0082	0.0001	0.0178	0.0046	0.0000	0.0132	0.0080	0.0401	0.0122	0.0050	0.0242	0.0127	0.0083	0.0999	0.0121	0.0105	0.5728	0.0117	0.0000	0.0000
ASA	0.0644	0.0475	0.0225	0.0594	0.0408	0.0004	0.0569	0.0367	0.0001	0.0518	0.0384	0.1084	0.0510	0.0496	0.8202	0.0506	0.0506	0.9965	0.0508	0.0328	0.5231
AMR	0.0124	0.0084	0.2252	0.0085	0.0099	0.5426	0.0084	0.0108	0.3517	0.0084	0.0167	0.1235	0.0071	0.0153	0.0103	0.0081	0.0115	0.2109	0.0091	0.0164	0.5500
AFR	0.0132	0.0086	0.1754	0.0120	0.0065	0.0153	0.0084	0.0118	0.2102	0.0092	0.0117	0.5502	0.0088	0.0112	0.4097	0.0098	0.0086	0.6356	0.0095	0.0000	0.4441
RES	0.5764	0.4746	0.0028	0.5454	0.4351	0.0000	0.5210	0.4323	0.0005	0.4937	0.4925	0.9776	0.4929	0.4959	0.9173	0.4902	0.5014	0.6767	0.4952	0.3115	0.0454
INU	1.2591	1.2547	0.8021	1.2734	1.2353	0.0056	1.2514	1.2648	0.3720	1.2503	1.3105	0.0220	1.2495	1.2739	0.1393	1.2441	1.2818	0.0161	1.2540	1.4262	0.0750
DEP	0.9589	0.7102	0.0000	0.9324	0.5584	0.0000	0.7138	0.8528	0.0000	0.7540	0.7846	0.5179	0.7374	0.8158	0.0114	0.7222	0.8357	0.0001	0.7546	0.9836	0.1703
SEL	0.0357	0.0710	0.0000	0.0621	0.0670	0.4100	0.0531	0.0898	0.0000	0.0610	0.1002	0.0020	0.0579	0.0844	0.0004	0.0640	0.0654	0.8228	0.0647	0.0328	0.1735
SUP	0.0209	0.0835	0.0000	0.0328	0.1158	0.0000	0.0822	0.0484	0.0000	0.0733	0.0568	0.1000	0.0777	0.0537	0.0003	0.0844	0.0430	0.0000	0.0719	0.0656	0.8494
BEN	0.5198	0.2040	0.0000	0.3147	0.2048	0.0000	0.3380	0.0950	0.0000	0.2833	0.0501	0.0000	0.3205	0.0868	0.0000	0.2955	0.1886	0.0000	0.2631	0.2623	0.9891
MRT	0.2219	0.3395	0.0000	0.3525	0.2779	0.0000	0.2537	0.4605	0.0000	0.3068	0.4290	0.0000	0.2730	0.4540	0.0000	0.2889	0.3830	0.0000	0.3185	0.1967	0.0215
RNT	0.5888	0.2174	0.0000	0.3862	0.1748	0.0000	0.3340	0.1811	0.0000	0.2924	0.2287	0.0005	0.3159	0.1978	0.0000	0.2749	0.3142	0.0011	0.2847	0.5246	0.0005
VAL	0.5810	1.5522	0.0000	1.0869	1.6906	0.0000	1.2670	1.6028	0.0000	1.3459	1.6295	0.0000	1.2662	1.6908	0.0000	1.4039	1.2941	0.0021	1.3756	0.8046	0.0022
DIC	0.4865	0.7762	0.0000	0.6472	0.8064	0.0000	0.6508	0.8816	0.0000	0.6950	1.0055	0.0000	0.6568	0.9222	0.0000	0.7018	0.7683	0.0000	0.7220	0.7232	0.9850

Notes: Means/proportions are for binary variables indicating No or Yes for the following survey questions: would be able to raise $2,000 emergency finance in one week (EMG), would use own savings as a source of emergency finance (SAV), would use loan from a deposit-taking institution as a source of emergency finance (DTI), would use high-interest loan from finance company as a source of emergency finance (FIN), would use loan on credit card as a source of emergency finance (CRD), would use loan from family and friends as a source of emergency finance (FMF) and would use loan from welfare or community organisation as a source of emergency finance (WLF). For the continuous variables (AGE, RES, INU, DEP, VAL, DIC) Levene's test for equality of variances determines whether the *t*-statistics (not shown) and *p*-values for equality of means assume equal or unequal variances. For the binary variables (CPO, CPY, CPB, LPO, LPY, LPB, SEX, DIV, MAR, OCE, EUR, MID, ASA, AMR, AFR, SEL, SUP, BEN, MRT, RNT) the *t*-statistics (not shown) and *p*-values are for differences between proportions.

TABLE 3 *Estimated logistic regression models*

Variable	EMG				OWN				DTI				FIN				CRD				FMF				WLF			
	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect	Estimated coefficient	Standard error	*p*-value	Marginal effect
CONS.	1.1840	0.2153	0.0000	3.2673	-0.3321	0.1596	0.0374	0.7174	-0.1878	0.1079	0.0819	0.8288	-2.7738	0.0949	0.0000	0.0624	-0.9775	0.1036	0.0000	0.3762	0.2459	0.0963	0.0107	1.2787	-5.6207	0.3013	0.0000	0.0036
CPO	-0.3816	0.1663	0.0218	0.6828	-0.3766	0.1061	0.0004	0.6862	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPY	–	–	–	–	–	–	–	–	-0.2248	0.0737	0.0023	0.7986	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPB	-0.4129	0.1739	0.0176	0.6617	-0.4935	0.1372	0.0003	0.6105	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LPO	–	–	–	–	-0.4463	0.1573	0.0045	0.6400	–	–	–	–	–	–	–	–	-0.9268	0.4803	0.0536	0.3958	–	–	–	–	–	–	–	–
LPY	–	–	–	–	-0.7232	0.1823	0.0001	0.4852	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LPB	–	–	–	–	-1.4915	0.4153	0.0003	0.2250	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SEX	–	–	–	–	–	–	–	–	-0.1269	0.0612	0.0380	0.8808	–	–	–	–	–	–	–	–	0.1252	0.0583	0.0318	1.1334	–	–	–	–
AGE	0.1045	0.0149	0.0000	1.1102	0.1062	0.0125	0.0000	1.1121	–	–	–	–	–	–	–	–	–	–	–	–	-0.1124	0.0100	0.0000	0.8937	–	–	–	–
DIV	-0.2460	0.0917	0.0073	0.7819	–	–	–	–	-0.2015	0.0837	0.0160	0.8175	–	–	–	–	-0.2055	0.0903	0.0229	0.8142	–	–	–	–	–	–	–	–
MAR	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	-0.1755	0.0608	0.0039	0.8391	–	–	–	–
OCE	–	–	–	–	–	–	–	–	–	–	–	–	0.4825	0.2102	0.0217	1.6201	–	–	–	–	–	–	–	–	–	–	–	–
EUR	–	–	–	–	-0.4925	0.0883	0.0000	0.6111	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MID	-0.9708	0.2771	0.0005	0.3788	-1.2685	0.3163	0.0001	0.2812	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ASA	-0.3059	0.1505	0.0421	0.7364	-0.4761	0.1565	0.0023	0.6212	-0.5709	0.1369	0.0000	0.5650	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
AMR	–	–	–	–	–	–	–	–	–	–	–	–	0.6993	0.3559	0.0494	2.0123	0.8611	0.2747	0.0017	2.3657	–	–	–	–	–	–	–	–
AFR	-0.6412	0.3277	0.0504	0.5267	-0.8611	0.2997	0.0041	0.4227	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RES	–	–	–	–	0.0909	0.0379	0.0166	1.0951	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
INU	-0.4537	0.0725	0.0000	0.6353	-0.4398	0.0591	0.0000	0.6442	-0.2084	0.0529	0.0001	0.8119	–	–	–	–	-0.2193	0.0542	0.0001	0.8031	–	–	–	–	0.3739	0.1683	0.0263	1.4535
DEP	-0.2116	0.0364	0.0000	0.8093	-0.2514	0.0316	0.0000	0.7777	–	–	–	–	–	–	–	–	-0.0955	0.0289	0.0009	0.9089	–	–	–	–	–	–	–	–
SEL	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SUP	0.5564	0.2253	0.0135	1.7444	0.5845	0.1338	0.0000	1.7941	-0.8304	0.1239	0.0000	0.4359	–	–	–	–	-0.5287	0.1299	0.0000	0.5894	-0.4414	0.1291	0.0006	0.6431	–	–	–	–
BEN	-1.1941	0.1023	0.0000	0.3030	-0.6287	0.0929	0.0000	0.5333	-1.3350	0.0938	0.0000	0.2631	-1.5604	0.1976	0.0000	0.2101	-1.1726	0.1050	0.0000	0.3096	-0.3752	0.0772	0.0000	0.6871	–	–	–	–
MRT	-0.8080	0.1131	0.0000	0.4457	-1.0560	0.0741	0.0000	0.3478	0.2699	0.0690	0.0001	1.3099	–	–	–	–	0.2420	0.0727	0.0009	1.2739	0.1988	0.0601	0.0009	1.2200	–	–	–	–
RNT	-0.9952	0.1329	0.0000	0.3696	-1.0956	0.0906	0.0000	0.3343	-0.6864	0.0898	0.0000	0.5034	–	–	–	–	-0.3433	0.0807	0.0000	0.7095	–	–	–	–	1.0096	0.2580	0.0001	2.7445
VAL	0.3958	0.0636	0.0000	1.4856	0.0570	0.0260	0.0283	1.0586	-0.0582	0.0246	0.0182	0.9435	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DIC	1.4583	0.1373	0.0000	4.2987	1.2179	0.0853	0.0000	3.3802	0.3669	0.0697	0.0000	1.4433	0.7211	0.0826	0.0000	2.0567	0.6220	0.0716	0.0000	1.8626	–	–	–	–	–	–	–	–
R^2	0.3214	–	–	–	0.2636	–	–	–	0.1590	–	–	–	0.0905	–	–	–	0.1354	–	–	–	0.0665	–	–	–	0.0292	–	–	–
HL	13.2378	–	0.1039	–	34.1823	–	0.0000	–	14.1023	–	0.0791	–	6.3386	–	0.6094	–	17.5308	–	0.0250	–	36.8999	–	0.0000	–	0.8862	–	0.8287	–

Notes: Dependent variables are binary variables indicating No or Yes for the following survey questions: would be able to raise $2,000 emergency finance in one week (EMG), would use own savings as a source of emergency finance (SAV), would use loan from a deposit-taking institution as a source of emergency finance (DTI), would use high-interest loan from finance company as a source of emergency finance (FIN), would use loan on credit card as a source of emergency finance (CRD), would use loan from family and friends as a source of emergency finance (FMF) and would use loan from welfare or community organisation as a source of emergency finance (WLF). The refined models presented are obtained by using forward stepwise regression on the entire set of independent variables using the Wald criterion. R^2 – Nagelkerke R^2, H-L – Hosmer-Lemeshow test statistic. The null hypothesis for H-L is no functional misspecification.; marginal effects calculated at sample means

TABLE 4 *Observed and predicted values for the binomial logistic models*

		Observed	Constant probability model			Estimated model		
Variable	Response	Total	No	Yes	%	No	Yes	%
EMG	No	1289	241	1048	18.70	450	839	34.91
	Yes	5603	1048	4555	81.30	227	5376	95.95
	Total	6892	1289	5603	69.59	677	6215	84.53
SAV	No	3654	1937	1717	53.02	2687	967	73.54
	Yes	3238	1717	1521	46.98	1121	2117	65.38
	Total	6892	3654	3238	50.18	3808	3084	69.70
DTI	No	4766	3296	1470	69.15	4442	324	93.20
	Yes	2126	1470	656	30.85	1743	383	18.02
	Total	6892	4766	2126	57.34	6185	707	70.01
FIN	No	6293	5746	547	91.31	6291	2	99.97
	Yes	599	547	52	8.69	598	1	0.17
	Total	6892	6293	599	84.13	6889	3	91.29
CRD	No	5198	3920	1278	75.42	5129	69	98.67
	Yes	1694	1278	416	24.58	1637	57	3.36
	Total	6892	5198	1694	62.92	6766	126	75.25
FMF	No	4798	3340	1458	69.62	4756	42	99.12
	Yes	2094	1458	636	30.38	2048	46	2.20
	Total	6892	4798	2094	57.70	6804	88	69.67
WLF	No	6831	6771	60	99.11	6831	0	100.00
	Yes	61	60	1	0.89	61	0	0.00
	Total	6892	6831	61	98.25	6892	0	99.11

Notes: Predicted values are binary variables indicating No or Yes for the following survey questions: would be able to raise $2,000 emergency finance in one week (EMG), would use own savings as a source of emergency finance (SAV), would use loan from deposit-taking institution as a source of emergency finance (DTI), would use high-interest loan from finance company as a source of emergency finance (FIN), would use loan on credit card as a source of emergency finance (CRD), would use loan from family and friends as a source of emergency finance (FMF) and would use loan from welfare or community organisation as a source of emergency finance (WLF). Observed is the number of No and Yes responses in the sample; the probabilities in the constant probability model are the values computed from estimating a model that includes only an intercept term, and thereby corresponds to the probability of correctly identifying No and Yes responses on the basis of their proportion in the sample; the estimated model corresponds to the models in Table 3. % - is the number of correct predictions for each response (i.e. No or Yes) as a percentage of the observed values for No and Yes; Total percent correct is the number of correct predictions (i.e. No and Yes) as a percentage of the total observed values for No and Yes.

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