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Financial Fragility of Urban Households in Malaysia

(Kerapuhan Kewangan Bagi Isi Rumah Bandar di Malaysia)

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ABSTRACT

Household debt in Malaysia has been on an upward trend and increasing at a relatively fast pace. This study provides an in-depth micro analysis of the current Malaysian urban households' vulnerabilities by examining the extent of their ability in dealing with financial shocks and factors that attribute to their financial fragility. Using a recent strictly random sample, it is found that Malaysian urban households are financially vulnerable. Only 10 percent of the households are resilient to shocks related to unemployment, physical disability, divorce, death, or changes in interest rate or stock market. More than a fifth of the households are not able to survive for at least three months if their income is cut off. Additionally, more than a fifth of these households do not have enough savings or any other source to turn to if there is a need to raise RM10,000 within a short period. Household income significantly affects a household current financial situation, while those with better financial knowledge and higher levels of education are less likely to be in asset poverty. The inability to cope with financial shocks differs across ethnic groups partly due to the wealth disparity and access to sources of funds. Initiatives must be undertaken to assist the households in facing these challenges and for them to exercise financial prudence. Additionally, household debt must be closely monitored to ensure that it is sustainable.

Keywords: Household debt; financial shock; ethnic; vulnerability; Malaysia

ABSTRAK

Hutang isi rumah di Malaysia telah menunjukkan arah aliran meningkat dan pada kadar yang agak cepat. Kajian ini memberikan analisis mikro secara mendalam terhadap tahap kemampuan isi rumah dalam menangani kejutan kewangan dan faktor yang menjurus kepada kerapuhan kewangan. Dengan menggunakan sampel secara rawak, kajian mendapati bahawa isi rumah bandar di Malaysia terdedah kepada perkara tersebut. Hanya 10 peratus daripada isi rumah bandar berdaya tahan menghadapi kejutan kewangan yang berkaitan dengan pengangguran, kecacatan fizikal, perceraian, kematian, atau perubahan dalam kadar faedah atau pasaran saham. Lebih daripada satu perlima daripada isi rumah tidak mampu bertahan untuk sekurang-kurangnya tiga bulan jika pendapatan mereka terputus. Selain itu, lebih daripada satu perlima daripada isi rumah ini tidak mempunyai simpanan yang mencukupi atau mempunyai mana-mana sumber lain jika terdapat keperluan untuk mendapatkan RM10,000 dalam masa yang singkat. Pendapatan isi rumah memberi kesan ketara kepada situasi semasa kewangan mereka, manakala mereka yang mempunyai pengetahuan kewangan yang lebih baik dan pendidikan yang lebih tinggi kurang cenderung kepada kemiskinan aset. Ketidakmampuan untuk menghadapi kejutan kewangan berbeza di antara berbagai etnik disebabkan oleh perbezaan kekayaan dan akses kepada sumber dana. Inisiatif perlu diambil untuk membantu isi rumah dalam menghadapi cabaran-cabaran ini dan bagi mereka untuk berhemah dalam pengurusan kewangan. Selain itu, hutang isi rumah perlu dipantau dengan teliti untuk memastikan bahawa ia mampan dan berdaya tahan.

Kata kunci: Hutang isi rumah; kejutan kewangan; etnik; kelemahan; Malaysia

INTRODUCTION

The 2008-2009 recession was triggered by an unsustainable expansion of the housing sector and subsequent failures in the over-leveraged financial sector, primarily in the United States and Western Europe. An IMF research published in the April 2012 World Economic Outlook finds that recessions preceded by larger increases in household debt are more severe. This crisis underscores the importance of household credit market and household financial management in determining the stability of the financial system and the level of economic activity. Buyukkarabacak and Valev (2010) showed that rapid household credit expansions generate vulnerabilities that can precipitate a banking crisis. In another study, Japelli et al. (2008) find evidence to suggest that insolvencies tend to be associated with greater household indebtedness. This can help explain why even moderate shocks can precipitate a huge wave of household defaults, in a situation where households are already heavily indebted.

On the other hand, household credit does not seem to have made any significant contribution to economic growth, as shown in Beck et al. (2008).

At a micro level, the increase in indebtedness means that the household sector is more exposed to interest rate risks and shocks to household income, whether arising from global or domestic recession. Households whose debt carries mostly floating interest rates are vulnerable to rising interest rates. Increases in debt servicing costs result in a reduction in disposable income, and hence, consumption. Financial shocks to income can lead to consumption volatility which can have short run and long-run effects on household welfare.

A household is said to be vulnerable to future loss if welfare falls below socially accepted norms caused by risky events such as short or long term economic crisis. Moser and Holland (1997) define risk as "the insecurity of the well-being of individuals, households, or communities in the face of a changing environment." Household risk and economic vulnerability status are determined by a combination of circumstances that include capabilities, prospects for earning a living, and deprivation or exclusion of help (Smelser & Lipset 2005; Loughhead & Mittai 2000; and Narayan et al. 2000). The degree of risk depends on the characteristics of the risk and the household's ability to respond to risk. The latter depends on household characteristics, especially their asset base such as their savings, property ownership and occupation, among others. The asset base, in turn, can be affected by the level of education, marital status and number of children in a household (Mok et al. 2007).

For the poor, financial shocks can trigger food insecurity in the short run, while in the long run it can result in destitution, landlessness, irreversible malnutrition, and termination of school (Heltberg & Lund 2009). The poor are more often exposed to risky events (Sharma et al. 2000) and they also have less access to assets that can be used to manage risk (Devereux 1999; Sharma et al. 2000). Uninsured risk may also induce households to engage in low-return activities which may hamper households to grow their incomes and escape poverty.

Financial stress and financial wellness may also have an effect on productivity. Delafrooz et al. (2010) define financial stress as the negative feelings about and reactions to one's own financial situation, while financial wellness is the level of financial health, which includes satisfaction with material and non-material aspects of one's financial situation, perception of financial stability including adequacy of financial resources, and the objective amount of material and non-material financial resources that each individual possesses. They found that financial stress negatively affect job performance, while financial wellness is a positive factor in job performance.

In Malaysia, as in many other economies, household debt has been on an upward trend and at a relatively fast pace, and has been the fastest growing segment of total credit for Malaysia (see Figures 1-3). The increase in household debt continued in recent years despite the measures implemented by the Central Bank in 2010 to curb the trend.[1] The debt service ratio far exceeded the 30 percent acceptable level in recent years, and Malaysia household debt as a percentage of disposable income surpassed U.S.A, Korea and the neighboring countries in 2009. The number of bankruptcies cases has also risen in tandem with household debt, from 13,238 cases in 2007 to 19,167 in 2011.[2]

In July 2013, the Central Bank announced new measures, to complement those introduced in 2010, aimed at avoiding excessive household indebtedness and to reinforce responsible lending practices by key credit providers.[3] These measures are undertaken partly as a response to the significant increase in personal financing by non-bank financial institutions in which the majority of the borrowers of these institutions earn a monthly income of less than RM3000. The wide distribution of

FIGURE 1. Household Debt to GDP ratio (%) and Financial Assets to Debt Ratio (%)
Source: Financial Stability and Payment Systems Report, Bank Negara Malaysia, various years.

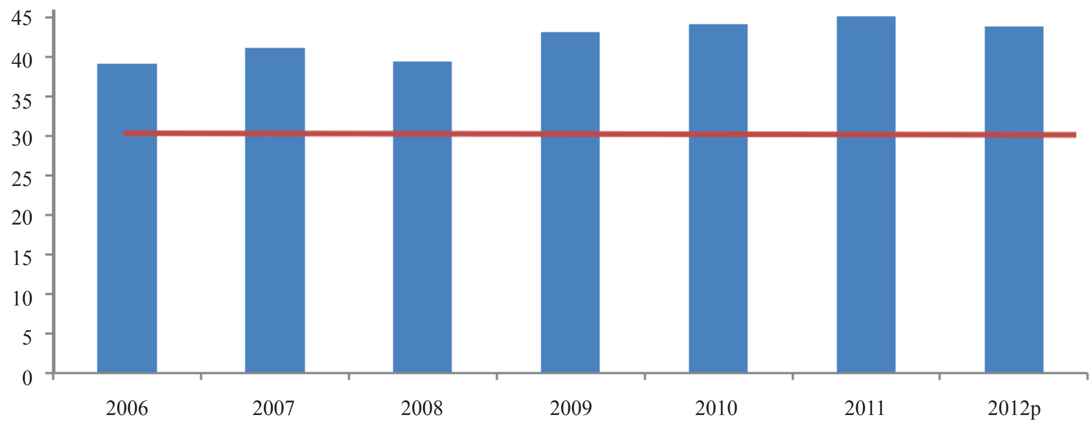

FIGURE 2. Debt service ratio (%)
Source: Financial Stability and Payment Systems Report, Bank Negara Malaysia, various years.

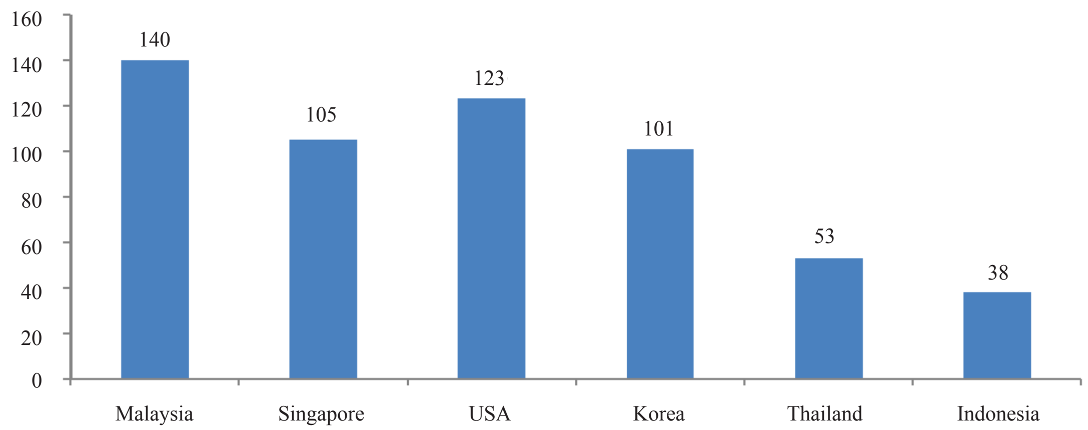

FIGURE 3. Household debt for selected countries, as a % of disposable income, 2009
Source: The Edge, Nov 22, 2010.

financing packages by these institutions has resulted in the build-up of leverage among households and compressed the buffers available for households to cope with income shocks. Additionally, the attractive packages offered encourage households to spend beyond their means as reflected in the higher delinquencies of the lower-income groups (Malaysia 2013a).

An analysis of household debt and household vulnerability based on aggregate data provide a representation of the overall situation. However, micro level data is crucial to complement the aggregate information to provide a clearer picture regarding the distribution of leverage and debt service burden across households and to give an in-depth examination of the households' vulnerabilities and risks. The purpose of this paper is to provide such analysis at the household level. It focuses on urban households as the Central Bank anticipates that borrowers in the lower-income categories and residing in urban areas are the ones who will face more challenges in managing their financial obligations (Malaysia 2012).

The research uses a recent household data which was obtained from a strictly random process where the selection of households was determined entirely by the Department of Statistics, Malaysia. To date, there has not been any study that provides current comprehensive data and information at the household level with regards to their financial fragility in dealing with small or large shocks. It analyzes the extent of Malaysian urban households' vulnerability to financial shocks. Additionally, it identifies socio-economic factors that are associated with financial fragility of these households. The findings would provide a better understanding of the issue and will be beneficial to policy makers to develop appropriate measures to be implemented in a timely manner to contain the financial risks faced by households.

The next section provides a theoretical discussion of household debt and reviews recent literature on factors related to household financial fragility. Section 3 presents the sample and method of this study while the findings of this research are given in Section 4.Section 5 concludes with a discussion of the implications of the findings.

HOUSEHOLD DEBT AND FACTORS RELATED TO FINANCIAL FRAGILITY

Household debt has been explained in the literature in terms of utility maximization behaviors. To attain maximum utility, households smooth their consumption over their lifetime and rearrange their income flows accordingly. Debt allows households to flatten their consumption profile in the face of an unsteady and erratic income flow. In the life cycle income hypothesis, agents face a hump-shaped time-earning profile. Households would tend to borrow to fund current consumption in periods when income is low, relative to the expected average income over their lifetime. Loans will be repaid in periods when income is high. The more the income flow is hump-shaped, the higher the level of household debt needed in the early stage of life (Barba and Pivetti 2008). Thus it is expected that household debt is higher among the young.

Barba and Pivetti (2008) have put forth several factors to explain the rise in household debt experienced by many countries worldwide. Firstly, it can be attributed to the falling or stagnant real wages and salaries. Adverse shocks, such as abrupt changes in interest rates or unexpected reductions in income flows also could increase indebtedness as households' ability to repay the debt could be jeopardized. Another factor is the easing of liquidity constraints on households which allows households to increase their borrowing to achieve a more desirable level of consumption. Households also strive to preserve not only their absolute but also their relative standards of consumption. There is a net bias towards consumption at the expense of accumulated net wealth, as social ranking of living standards is based on the 'social visibility' of consumption. The availability of new goods and services such as cellphones and other ICT household devices also may induce households to turn to increased credit to finance such consumption.

The increased in household debt contributes to household financial fragility. In a study by Lusardi et al. (2011), it is found that half of Americans report that they would probably or certainly be unable to cope with an unexpected need to come up with $2000 in the next month. Similar findings were obtained for the UK and Germany. In Portugal, the level is slightly lower at 46 percent, while in France it was 37 percent. Canada, Netherlands and Italy report higher levels of coping capacity, with 28, 27.9, and 20 percent, respectively, of the respondents certainly or probably unable to come up with the emergency funds. The results obtained for the US are consistent with the survey conducted by Pew Research Center in 2009, as reported in Lusardi et al. (2011) that 42 percent of Americans often do not have enough money to make ends meet. Another study also reported that nearly half of the respondents of the Financial Capability Survey conducted in the US report facing difficulties in covering monthly expenses and paying bills (Lusardi 2010).

Lusardi et al. (2011) find that the capacity to cope is higher among those with higher income and greater educational attainment. They also found that financial fragility is more likely among the young, and among women. There are also differences in ability to cope across ethnic groups. In addition, people who reported to have financial education in school have a higher ability to cope with a financial emergency. The study by Emmons and Noeth (2013) also finds that age, educational attainment, and race or ethnicity to be strong predictors of financial fragility.

SAMPLE AND METHOD

The selection of sample for this study was restricted to households in Klang Valley[4] to represent the urban population of Malaysia. To ensure randomness and representativeness, the selection of the sample was strictly determined by the Department of Statistic (DOS) Malaysia using its 2010 Census sampling frame. Klang Valley comprises of five administrative districts and each district is divided into enumeration blocks, and each enumeration block consists of 80 to 120 living quarters or households. Based on a margin of error of 0.06, an expected response rate of 80 percent, and design effect of 2,[5] the number of enumeration blocks from each administrative district was determined proportionately. From each selected enumeration block, households were randomly selected, resulting in a sample size of 672 households.

Four sets of identical questionnaires were prepared in 3 different languages – Malay, English, Chinese/ Malay and Chinese/ English – to cater to the different ethnic groups in Malaysia. The selected households were either interviewed, or given the questionnaire for them to complete on their own. The data collection was conducted in June to October 2012, in which the response rate was 69.8 percent. The sample description is given in Table 1.

The sample households are made up of 56.2 percent Malay, 30.7 percent Chinese, 10.0 percent Indian and 3.0 percent Others, which are somewhat comparable to the population percentages.[6] Majority of the respondents are the head of the household, and they are also the main wage earner (the person with the highest income in the household). Education levels and age distribution are not markedly different across ethnic groups.[7] However, variations can be observed in household income and wealth. The bottom 40 percent of Malay and Indian households are earning less than RM4,000 a month, while for the Chinese, it is RM6,000 a month.[8] The disparity is more distinct for household wealth in which more than 40 percent and 32 percent of the Malay and Indian households, respectively, have wealth less than RM40,000.[9] However, less than 20 percent of Chinese households have wealth below RM 40,000. In fact, more than 37 percent of Chinese households have at least

TABLE 1. Sample Description

		Malay (264)	Chinese (144)	Indian (47)	Other (14)	Total (469)
Position in household	head of household	101	65	27	8	201
		38.7	*45.1*	*57.4*	*57.1*	*43.1*
	spouse/partner	86	30	14	4	134
		33.0	*20.8*	*29.8*	*28.6*	*28.9*
	other	74	49	6	2	131
		28.4	*34.0*	*12.8*	*14.3*	*28.1*
Main wage earner of household?	no	124	72	19	5	220
		47.3	*50.3*	*40.4*	*35.7*	*47.2*
	yes	138	71	28	9	246
		52.7	*49.7*	*59.6*	*64.3*	*52.8*
Marital status	married/living together	185	100	42	11	338
		70.1	*69.4*	*89.4*	*78.6*	*72.1*
	separated/divorced/widowed	12	11	0	0	23
		4.5	*7.6*	*0*	*0*	*4.9*
	never married	67	33	5	3	108
		25.4	*22.9*	*10.6*	*21.4*	*23.0*
Gender	female	109	50	15	7	181
		41.6	*35.0*	*31.9*	*50.0*	*38.8*
	male	153	93	32	7	285
		58.4	*65.0*	*68.1*	*50.0*	*61.2*
Highest level of education completed	secondary education or below	105	59	23	6	193
		39.8	*41.0*	*48.9*	*42.9*	*41.2*
	vocational/college diploma	78	33	10	2	123
		29.5	*22.9*	*21.3*	*14.3*	*26.2*
	bachelor's/professional degree	72	43	13	4	132
		27.3	*29.9*	*27.7*	*28.6*	*28.1*
	master's degree/PhD	9	9	1	2	21
		3.4	*6.3*	*2.1*	*14.3*	*4.5*
Age	25 or below	55	30	4	0	89
		21.6	*21.6*	*9.3*	*0*	*19.8*
	26 - 35	76	37	14	6	133
		29.8	*26.6*	*32.6*	*46.2*	*29.6*
	36 - 50	74	44	17	6	141
		29.0	*31.7*	*39.5*	*46.2*	*31.3*
	51 - 60	37	18	7	1	63
		14.5	*12.9*	*16.3*	*7.7*	*14.0*
	61 and above	13	10	1	0	24
		5.1	*7.2*	*2.3*	*0*	*5.3*
Household current gross monthly income	less than RM1,500	37	6	7	1	51
		14.1	*4.2*	*15.2*	*7.1*	*11.0*
	RM1,500 to < RM2,500	40	7	8	6	61
		15.3	*4.9*	*17.4*	*42.9*	*13.1*
	RM2,500 to < RM4,000	70	15	16	0	101
		26.7	*10.5*	*34.8*	*0*	*21.7*
	RM4,000 to < RM6,000	56	30	3	0	89
		21.4	*21.0*	*6.5*	*0*	*19.1*
	RM6,000 to < RM8,000	22	16	4	3	45
		8.4	*11.2*	*8.7*	*21.4*	*9.7*
	RM8,000 or more	37	69	8	4	118
		14.1	*48.3*	*17.4*	*28.6*	*25.4*
Household current total wealth	Less than RM5,000	39	6	8	3	56
		14.9	*4.2*	*17.4*	*21.4*	*12.1*
	RM5,000 to < RM20,000	39	9	4	2	54
		14.9	*6.3*	*8.7*	*14.3*	*11.6*
	RM20,000 to < RM40,000	27	4	3	2	36
		10.3	*2.8*	*6.5*	*14.3*	*7.8*
	RM 40,000 to < RM 100,000	59	19	5	3	86
		22.5	*13.4*	*10.9*	*21.4*	*18.5*
	RM 100,000 to < RM 300,000	50	24	14	0	88
		19.1	*16.9*	*30.4*	*0.0*	*19.0*
	RM 300,000 to < RM 500,000	23	27	6	1	57
		8.8	*19.0*	*13.0*	*7.1*	*12.3*
	RM 500,000 to < RM 800,000	18	29	2	2	51
		6.9	*20.4*	*4.3*	*14.3*	*11.0*
	RM 800,000 or more	7	24	4	1	36
		2.7	*16.9*	*8.7*	*7.1*	*7.8*

Note: Percentages are given in subsequent rows and italicized.
(.) number of respondents.

RM500,000 worth of household wealth. The analysis in the next section will show that this disparity in wealth contributes to the differences in financial vulnerability in households across ethnic groups.

FINDINGS

FINANCIAL FRAGILITY AND CAPACITY TO BEAR RISK

Households were asked about their current financial situation in relations to their income and expenditure, whether they were having debts, or have no debts but have to use their savings to supplement their income, or just about manageable, or are able to save money with their income. Overall, more than half of the households are not able to save money, and it is more prevalent in Malay households. This finding is of concern as it gives a general indicator of the level of strength of a household to withstand any financial shock (see Table 2).

For the measurement of vulnerability of households to shocks, respondents were asked whether under which unforeseen circumstances it would be difficult for them to pay for their household living expenses. The results show that Malaysian urban households are financially vulnerable to shocks. Temporary unemployment of the household's breadwinner will affect 64.4 percent of the households, and more so for Malay and Indian households.[10] The problem is more serious, as expected, if the unemployment is a permanent one, in which over three-quarter of the households will be at risk. A slightly lower percentage of households are vulnerable if the circumstance is that of disability of the breadwinner. Indian households are more affected for these two latter situations. It may be that they are more dependent on the breadwinner of the household, compared to other ethnic groups.

Divorce or death of spouse or partner has a relatively lesser impact on households, and Chinese households are the least affected financially by these circumstances. Only 28.2 percent of the Chinese respondents stated that it will be difficult to pay for their living expenses if their spouse or partner dies, compared to 54.8 percent and 67.4 percent for Malay and Indian respondents.

Overall, an increase of loan interest by 3 percent or more would affect more than half of the households while a substantial drop of the stock market puts less than one-third of the households at risk. In contrast with others, Indian households are not as much affected by the stock market as only 6.4 percent of them buy shares as a method of saving or investment, compared to 19.0 percent for Chinese and 9.1 percent for Malays.[11] However, Indians are also less vulnerable to interest rate increase even though they take relatively a bigger number of loans. It perhaps could be that the total value may be lower. The results show that only 10.8 percent of the households are not vulnerable to any financial shock. Surprisingly, the proportion is slightly bigger among Malay households of 11.5 percent, and lowest for Chinese households of 9.8 percent.

Households also use up about 32.8 percent of their monthly income to pay off loans. This amount is lower than that reported by the Central Bank of 43.9 percent of debt-service ratio for the nation. Nevertheless, an examination of the results across ethnic groups reveals that Malay and Indian respondents used up more than 35 percent and 40 percent, respectively, of their income to pay off their loans.

The study also measures financial fragility and vulnerability by asking households how long they will be able to survive with their basic needs if their income is suddenly cut-off.[12] Based on this response, the study measures asset poverty by defining a household being in asset poverty if it is cannot survive for at least three months if the household income is suddenly cut-off. Secondly, households were asked if they are able to come up with RM5000 and RM10,000, respectively, from any source at all if an unexpected need arises within the next month. These amounts are chosen to represent medium and large financial shocks, respectively.

The results show that Malay households are the most vulnerable, in which the average number of months they can survive with basic necessities if their income is cut-off is 8.5 months. This is significantly much lower than that of Chinese and Indian households (at 1 percent level), which are 12.5 and 12.0 months, respectively. There is no significant difference between Chinese and Indian households. Additionally, Malay households recorded the highest level of asset poverty. More than a quarter of the households can only survive on basic necessities for less than 3 months if their income is suddenly cut-off. It is considerably lower than that of the Chinese households (significant at 1 percent) at 15.7 percent.

If households were to face with a medium or large financial shock, a substantial number of them will not be able to deal with it. This situation is severe in Malay and more so in Indian households. Almost 32 percent of Indian households, and 29 percent of Malay households are not able to raise RM10,000 from any source at all within a period of one month if an unexpected need arises. These households are not able use any of the sources such as their own savings, family, friends, financial institution, money lender, credit cards, selling investments or assets, or cutting down on expenses to raise the amount. Chinese households, on the other hand, are in a more comfortable situation and have the most resistance to the shock, in which more than 92 percent of them can raise RM10,000 using any or a combination of those sources.

These findings indicate that many of the urban households are financially fragile, and are vulnerable to shocks. This phenomenon is more prevalent among Indian and Malay households. The next sub-section will examine factors that contribute to the financial fragility of a household.

TABLE 2. Measurements of Household Financial Fragility

		Malay	Chinese	Indian	Other	Total
Household current financial situation	Having debts	12.5	6.3	10.6	7.1	10.3
	No debt but have to use savings	8.4	6.3	10.6	7.1	7.9
	Just about manageable	42.6	31.3	34.0	28.6	37.8
	Able to save some money	34.6	38.2	34.0	50.0	36.1
	Able to save lots of money	1.9	18.1	10.6	7.1	7.9
Unforeseen circumstances that would be difficult to pay for living expenses	Temporary unemployment of breadwinner	68.8	57.3	63.8	57.1	64.4
	Permanent unemployment of breadwinner	77.7	74.1	87.0	71.4	77.3
	Disability of breadwinner	73.0	67.1	82.2	71.4	72.0
	Divorce	43.2	26.6	56.5	42.9	39.4
	Death of spouse/partner	54.8	28.2	67.4	42.9	47.5
	An increase of loan interest by 3% or more	57.7	46.2	50.0	50.0	53.1
	A substantial drop of the stock market	37.5	25.2	19.6	35.7	31.8
	I can pay my living expenses under any circumstances	11.5	9.8	10.6	7.1	10.8
If unexpected need to raise $ within the next month	Could not raise RM5000 from any source [C < I, M]	10.7	3.5	19.1	7.1	9.2
	Could not raise RM10000 from any source [C < I, M]	29.0	7.7	31.9	28.6	22.7
# different types of loans currently taking and paying off	None	22.6	30.4	11.1	10.0	23.6
	One	33.9	34.1	20.0	50.0	32.9
	Two	33.9	23.9	57.8	10.0	32.6
	Three	9.6	11.6	11.1	30.0	10.9
Mean percent of monthly income used up to pay off loans [C < I, M]		35.4	25.8	40.5	29.5	32.8
Mean number of months can survive with basic needs if income is cut-off [M < C]		8.5	12.5	12.0	13.1	10.2
% of HH which can survive with basic necessities <3 months if income is cut-off [M > C]		27.0	15.7	22.2	21.4	22.9

Notes: M: Malay households; C: Chinese households; I: Indian households

DETERMINANTS OF FINANCIAL FRAGILITY

The study considers several factors that may have an impact on the financial fragility of a household. They include socio-economic and demographic factors such as level of education, income, wealth, ethnicity and gender. Determinants related to a household and its financial management such as household size, the extent of keeping track of household expenditure, and whether the household has a monthly budget are also included to capture household heterogeneity. In addition, the analysis includes the behavior or characteristic of the respondents with regards to their financial knowledge and level of risk tolerance to capture behavioral heterogeneity. To measure risk tolerance, five assessment items are used which are adapted from Grable and Lytton (1999). The mean score from the responses of the five items are used as an indicator of the level of risk tolerance, in which higher scores indicate higher levels of risk tolerance.

An ordinal logistic regression is estimated for household current financial situation as the responses can be ranked as 1 (having debts), 2 (no debt but have to use savings), 3 (just about manageable), 4 (able to save some money, and 5 (able to save lots of money). For the two dependent variables of “percentage of monthly income used up to pay loans”, and “number of months the household can survive with basic needs if income is cut-off”, the ordinary least squares (OLS) estimations are obtained. Binary logistic regression is applied for the asset poverty, as the outcome is binary which assumes the value of 1 if the household is in asset poverty, and 0 otherwise. The results are presented in Table 3.

TABLE 3. Regressions of Financial Fragility

	HH financial situation		%income used up to pay loan		#survival mths if no income		Asset poverty	
	Ordinal logistic		OLS		OLS		Binary logistic	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Constant			33.04**	7.78	-2.17	3.92	3.70**	0.89
Track expenses	0.13	0.10	-3.20**	1.21	-0.36	0.66	-0.06	0.14
Financial knowledge	0.20	0.14	1.27	1.87	1.11	0.94	-0.43*	0.21
Education level	0.14	0.09	4.01**	1.22	0.17	0.62	-0.25*	0.14
HH income	0.13**	0.04	-0.09	0.56	0.14	0.28	-0.04	0.06
HH wealth	0.11**	0.04	-0.29	0.55	1.01**	0.28	-0.24**	0.05
Risk tolerance level	0.04	0.03	0.09	0.42	0.03	0.21	-0.07	0.05
Chinese	0.44*	0.23	-9.07**	3.11	0.97	1.57	0.01	0.35
Indian	0.25	0.31	3.25	4.17	3.08	2.14	-0.20	0.47
Other ethnic	0.32	0.56	-7.26	7.63	1.81	3.70	0.07	0.74
Male	0.23	0.19	4.53*	2.54	1.81	1.29	-0.31	0.27
HH size	-0.07	0.04	-1.42**	0.58	-0.10	0.29	0.00	0.06
Has monthly budget	0.04	0.20	-	7.78	-0.29	1.37	0.20	0.29
R^2/Nagelkerke Pseudo-R^2	0.227		0.109		0.100		0.250	

*, ** significant at 5 and 1 percent, respectively.

As expected, household wealth is an important determinant of household financial fragility. Households with lower levels of wealth are more vulnerable – their financial situation is worse in that they are more likely to be having debts; they are able to survive a shorter period if their household income is cut-off; and they are more likely to be in asset poverty. Household income significantly affects a household current financial situation where households with higher income are more likely to be able to save lots of money, while those with lower income are more likely to have debts. However, it is not a significant factor in the length of time a household can survive if its income is cut off, nor does it affect the likelihood of asset poverty, which are longer term in nature. Respondents with better financial knowledge and higher levels of education are less likely to be in households that face asset poverty.

There is a significant difference between Chinese and Malay households in terms of their current financial situation, and the proportion of the monthly income used to pay up loans, even after controlling for other factors. Chinese households are in a better current financial situation, and they use up a smaller share of their income to pay up loans. However, the results show no significant difference between these households in terms of how long the household can survive if the income is cut off, and the likelihood of asset poverty, after controlling for wealth and other factors. It is also found that households which keep better track of their household expenditures, and those with more members, use up less of their income to pay loans. Men, compared to women, use up a bigger portion of their income to pay their loan commitments.

DISCUSSION AND CONCLUSION

This study uses recent household data which was obtained from a strictly random process to examine the vulnerability of Malaysian households in facing financial shocks and their capacity to bear the risk. It is found that urban households in Malaysia are vulnerable to financial shocks. These shocks can be in the form of temporary or permanent unemployment, physical disability, divorce, death, or changes in interest rate or stock market. Only about 10 percent of the households surveyed are resilient to any of these shocks. More than a fifth of the households are in asset poverty in which they can survive for only less than three months if their income is cut off. Additionally, more than a fifth of these households do not have enough savings or any other source to turn to if there is a need to raise RM10,000 within a short period.

The inability to cope with financial shocks differs across ethnic groups. Malay and Indian households are more vulnerable and are less able to cope with unexpected financial demands. On the other hand, Chinese households are more protected from these shocks. The analysis indicates that wealth plays a significant role in contributing towards this situation.

Chinese households, on average, are wealthier, and thus are able to cope with financial shocks must easier than other households. They also have more access to sources of funds if an unexpected financial need arises.

Debt will continue to be a part of a household as loans must be taken to finance housing and vehicle purchases. It is reported that 46.8 percent of bank lending in 2012 was for the purchase of residential properties, and 20.9 percent for the purchase of motor vehicles (Malaysia 2013a). The situation is exacerbated with the rising price of houses, especially in the urban areas. Based on the Malaysian House Price Index (MHPI), house price has increased by 11.8 percent in 2012, compared to 9.9 percent in the previous year.[13] Additionally, private transportation is currently necessary for most households as the public transportation system is not extensive and fully integrated to cater to the needs of the public.

Nevertheless, household debt related to personal loans need to be closely monitored. Although the Central Bank has rightly taken measures to reinforce responsible lending by financial institutions, it is equally important to take steps to further stress on responsible borrowing by households. More widespread campaigns and programs must be embarked to emphasize on the importance of spending within one's means and to assists households to effectively manage their finances and track their expenses. Additionally, free consultation regarding financial products available in the market and making wise financial investment should be provided to low-income households. This would help households to increase their wealth so that they are in a better position to protect themselves against any form of risk.

Cheaper and more housing must be made available to low-income urban households. Public transportation system must be improved and be fully integrated. These steps would certainly reduce the dependence on, and the amount of debt to finance housing and transportation needs. Household debt must be constantly monitored to ensure that it is sustainable, and safety measures must be put in place to protect households and the economy when faced with a crisis, either globally or locally.

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ENDNOTES

1. The measures were implemented to mitigate excessive investment and speculative activity in the property market and to contain substantial increases in property prices which resulted in houses becoming less affordable for genuine house buyers. A 70% loan-to-value (LTV) ratio was applied to individual borrowers with more than two housing loans, while capital charges on banks were increased for residential property loans with LTVs exceeding 90%. http://www.bnm.gov.my/files/publication/fsps/en/2011/fs2011_book.pdf. Retrieved on July 17, 2013.
2. http://www.insolvensi.gov.my/images/stories/statbank0912eng.pdf
3. The measures are: (i) maximum tenure of 10 years for financing extended for personal use; (ii) maximum tenure of 35 years for financing granted for the purchase of residential and non-residential properties; and (iii) prohibition on the offering of pre-approved personal financing products. http://www.bnm.gov.my/index.php?ch=en_press&pg=en_press_all&ac=2841&lang=en. Retrieved on July 17, 2013.
4. Klang Valley is an area in Malaysia comprising of its capital Kuala Lumpur and its suburbs, and adjoining cities and towns in the state of Selangor.
5. As cluster sampling is utilized, the sample is not as varied as it would be in a simple random sampling. The selection of an additional member from the same cluster adds less information than would a completely independent selection. The design effect measures this loss of effectiveness, which is computed as the ratio of the actual variance under the sample method actually used to the variance computed under the assumption of simple random sampling. Thus, a design effect of 2 implies that the sample variance is 2 times bigger than it would be if the survey were based on the same sample size but selected using simple random sampling.
6. The population estimates for 2011 are 54.65% Malay, 24.33% Chinese, 7.30% Indians and 13.73% others, out of the total Malaysian citizens population (Malaysia, 2011). Klang Valley Malaysian population in 2010 was made up of 49.56% Malay, 36.72% Chinese, 11.59% Indian and 2.12% others (http://www.statistics.gov.my/portal/index.php?option=com_content&view=article&id=1354&Itemid=111&lang=en). Retrieved on March 22, 2013.
7. The Malaysian urban population age 15 years and above in 2010 consists of 27.3% between 15-24 years old, 23.6% between 25-34 years old, 26.5% in the age group of 35-49 years old, 12.1% between 50-59 years of age, and 10.6% of age 60 years and above (http://www.statistics.gov.my/portal/download_Population/files/census2010/Taburan_Penduduk_dan_Ciri-ciri_Asas_Demografi.pdf). Retrieved on March 30, 2015.
8. For comparison, the population mean and median monthly salaries & wages for Malaysian citizens in 2012 were RM2,017 and RM1,500 respectively, Among the major ethnic groups, the Chinese received the highest mean monthly salaries & wages at RM2,331 as compared to the Malay of RM1,990 and Indians of RM1,903 (Malaysia 2013b). The 2012 Household Income Survey indicated that the bottom 40% of urban Bumiputera (Malays and indigenous peoples of Malaysia) and Indian households earn RM6000 or less, while the urban Chinese households earn RM8, 000 or less (Malaysia 2013c).
9. In the questionnaire, respondents were asked to indicate their household current level of wealth which includes income, assets, shares and all valuable items.
10. Comparisons are made between Malay, Chinese and Indian households only as the number of households in the "Other" category is too small for this purpose.
11. This is based on the response given to a question in the survey on methods of savings.

12. This a basic measure of asset poverty based on the approach by Haveman and Wolff (2001) and Caner and Wolff (2004).
13. The Malaysian House Price Index, National Property Information Centre, Malaysia, http://napic.jpph.gov.my/portal/portal/eps/Online%20Services/Key%20Statistics. Retrieved on July 17, 2013.

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