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Review of Financial Vulnerability Studies

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Abstract

Financial vulnerability has become an emerging concern to many parties and a number of factors in households' financial vulnerability are believed to influence households' financial well-being. Financial vulnerability is a status of financial instability or a situation to the exposure of financial risk and shock. Thus, the focus of this paper is to overcome the problem of how to justify the variables of financial vulnerability in order to achieve the financial well-being among the households. Moreover, this current paper concludes the financial vulnerability studies in eight countries which provide the similarities and differences in measuring financial vulnerability. Hence, the evidence review revealed that high financial vulnerable households are characterized by low income or low liquid assets, high balance sheet leverage, disability to cope with financial stress and financial crisis.

KeyWords: Financial problem, Financial vulnerability, Financial well-being, Indebtedness

INTRODUCTION

The lately economic and financial crisis around the world stressing out the downturn of households' economic and financial condition; households often find themselves carrying with large amount of loans or mortgage debt and such debt burden increase the difficulties of households from accumulate wealth to sustain their life and thus become more financial vulnerable. Financial vulnerability is becoming increasingly important and concern by various parties because individuals as well as households need to overcome with numerous financial challengers in today's demanding financial environment and financial mistake made in life can be costly. The word "vulnerability" at household level, is commonly defined as household ability to cope with risk, shocks, and their attitude towards undertaking risks (Swain & Floro, 2007). In other words, vulnerability is the risk of exposure to potentially harmful event. Hence, studies have conceptualized financial vulnerability as an inability to repay financial debt (Jappelli, Pagano & Di Maggio, 2013).

High financial vulnerable households are households who experienced low income and unemployed. Inadequacy of income and unemployed working status are significantly correlated with the level of financial vulnerability and thus affect the households' current financial situation. Low incomes households having high probability to be difficult and disable to coping with emergency and to pay for their household living expenses (Al-Mamun & Mazumder, 2015; Rodrigo, 2016; Yusof, Rokis & Jusof, 2015). However, adequate income and gainfully employed households reference person able to decrease the households' level of economic and financial vulnerability. Moreover, lacking of financial security is one of the factor contributes to the financial vulnerability among the households. Financial vulnerability of households is shown to be increase with the increase of inadequate of the welfare. Failed to develop sufficient financial security and disability to generate adequate post retirement income contributes to the unsecure post retirement life and high economic vulnerability (Lin & Grace, 2007; Rodrigo, 2016).

On the other hand, the extant literature demonstrates a strong association between financial vulnerability and poverty (Al-Mamun & Mazumder, 2015; Lewis & AV Lewis, 2014). Therefore, people are said to be living in poverty if their income and resources are inadequate as to preclude them from having a standard of living considered acceptable in the society in which they live (European Commission, 2004). Poor households' economic decision making and financial outcomes are significantly influences by the level of risk exposure and the level of capability to cope with risks. Thus, poor households are said to have higher level of exposure to risk. Hence, financial vulnerability of households increased with the rate of poverty. In Malaysia, households are defined in two groups which are poor group and hard core poor group based on Poverty Line Income (PLI) by the Malaysia government in order to assess the households' poverty status. Households' Poverty Line Income is measured based on the households' minimum requirement on the basis necessities which based on the standards set by the Department of Social Welfare (EPU, 2012). A few studies' findings revealed further that Malaysia urban households are financially vulnerable as compared with households in rural area (Yusof, Rokis & Jusof, 2015). Malaysia urban households with more than a fifth of the members are financially vulnerable; urban households are not able to survive for at least three month if their income is cut off. One of the core reasons of high poverty rate among urban households is due to the cumulative growth of urbanization. Level of urbanization was 34.2% in 1980 and reach 71% in 2010.

Nevertheless, a few studies have emphasized and highlighted financial vulnerability as important concept and significant component in measures the households' financial conditions regardless in the country or outside the country. Households are examined in term of their risk coping ability, credit rationing and attitudes towards shock in order to measure households' level of financial vulnerability (Al-Mamun & Mazumder, 2015; Emmons & Noeth, 2013; Guarcello, Mealli & Rosati, 2010). Likely, Amanah Ikhtiar Malaysia's (AIM) microcredit programme emphasized on the concept of financial vulnerability among the low and poor income households in order to access their economic and financial condition. The findings show that the participated households have high level of financial vulnerability due to low risk coping ability and weak credit rationing. AIM's microcredit programme leads the participated households an increase in their income, ability to cope with external shocks and credit rationing, thus reduces their poverty rate and economic vulnerability. The literature revealed further and found that households with undesired repayment rate are contribute to the increasing number of poor households, however, more female households' reference person compared to male households' reference person are practising such undesired behaviour (Al-Mamun&Mazumder, 2015).Therefore, various finance and economic programs must be embarked to assist households to manage their finance effectively in order to help them to be in better financial position to protect households against any form of risk.

An Overview of Studies Conducted on Financial Vulnerability of Household

In recent decades, financial vulnerability as a research topic has increased in popularity, due mainly to it great effect on a country's economic development in term of growth and poverty reduction. Identified and understand about financial vulnerability able to improve households' financial management and reduce rate of poverty. Life expectancy in near future is increasing, therefore there is a need for households to have adequate wealth to support increasing period of time. Households facing high vulnerability rate if they cannot managed to finance their retirement needs. Thus, high financial stress will occurs among the low wealth asset households especially if there is a big amount of expenses to be finance in the coming period. Specifically, there is a slightly different in the meanings for the word "vulnerability" in both disaster terminology and also financial terminology. In disaster terminology, vulnerability has a meaning of "The characteristics and circumstances of a community, systems or asset that make it susceptible to the damaging effects of a peril" (UNISDR, 2009b). Whereas in financial terminology, vulnerability defined as "The vulnerable conditions that exclusion and marginalization individuals from participating in economic, social and cultural activities" (Lewis & AV Lewis, 2014).

A few studies have defined the financial vulnerability to the condition of poverty such as living in a low nutritional environment and health levels and also unable to coping with unexpected financial crisis. Likely, one of the precise definitions of financial vulnerability which present by Anderloni and Vandone (2012) are as following:
"Households consider as financial vulnerable due to over commitment to excess indebtedness and also other financial instability's condition, such as the inability to overcome daily life expenses, difficulties in paying utility bills and unable for rental payment."

Researches carried out mainly in developed countries have shown financial vulnerability is commonly defined as risk of exposure to potentially unfavourable financial event. In Austria, Italy, England, studies have conceptualised financial vulnerability as income poverty (Albacete & Lindner, 2013; Guarcello, Mealli & Rosati, 2010; Lewis & AV Lewis, 2014). Low income poverty households possess diverse physical, mental, social and economic condition that generates to the reduction of the households' capacity and well-being. Households with limited income can't access to the capital market and they may face resources constraint to take care of their family daily necessities needs. While in Ireland, study has conceptualized financial vulnerability as asset poverty (Murphy & Scott, 2014). Households possess high rate of financial vulnerability because of the localities of the household in an oversupply housing areas during the recent speculative housing bubble. Higher financial vulnerable households are located in the areas of greatest housing oversupply while the less financial vulnerable household are located in areas with the lowest level of oversupply. Thus, these show a correlation relationship between rate of households' financial vulnerability and asset poverty.

Meanwhile, various variables are used to examine the financial vulnerability of the households. For instance, household's income, credit rationing, economic, social and external effect. However, financial vulnerability cannot be measured simply by looking at these few variables. It is encompass multiple determinants of the financial vulnerability and should be look from different angles. Thus, each country may have different variables which are better to define and examine their own country's financial vulnerability. Therefore, the Table 1 shows a summary of reference variables, sample, methods or sampling techniques and findings presented by various countries:

The first study is done in Europe by Finney and Jentzsch (2008) in order to establish a baseline measure of financial vulnerability to map households in financially fragile situation. The research conducted compiled a dataset comprising of 12 groups of respondents with age between 18 and above. Financial vulnerability of households measured using six different variables, includes age, family type, occupational status of household reference person, number of earner, gender and country. Thus, this study combined questions related to present and future in order to measure households' financial vulnerability. The cluster analysis was applied for the purpose of segmenting the population. The findings show that financial vulnerable household is one who tends to have often been in difficulties in the past 12 months and feel that their situation is unlikely to improve.

Next, the second study is done by using the data from the Survey of Consumer Finances in order to examine a family's endowments and its economic and financial outcomes. This study determines the cognitive ability, social and chronological of the households to measure the family's economic vulnerability and financial fragility. Sample for this study was comprised by 18 groups of respondents.

In addition, the sample was defined based on the characteristics of the reference person of the households which are age and educational attainment. Thus, questionnaires was carried out for the research study with constant control variables of the sample, whereas, interview was conducted if that is a different in the control variable of the research such as race or ethnicity of the sample. The research results show that, in Malaysia, financial vulnerable households are characterized by low levels of liquid assets and high balance sheet leverage. The study revealed further that one of the main reasons was because of legacy of discrimination. Legacy of discrimination in housing, education and employment may weaken the translation of cognitive ability and education of the family members into human capital (Al-Mamun & Mazumder, 2015).

The third study (Schofield, Percival, Passey, Shrestha, Callander & Kelly, 2010) is conducted in Australia. The result of research shows that financial vulnerable individuals possess characteristics of low wealth asset bases and disability to cope with any financial stress. Thus, financial vulnerability rate was high especially for those who have retired earlier due to health condition compared to those who are in full time employment with no health condition. Money related variables (amount of wealth accumulation and predictor of income) were used to measure the individual's financial vulnerability. Thus, this research sample was comprised by 8,864 people between aged 45 to aged 64. The logistic regression and multiple linear regression models were applied in the research. Logistic regression model was used to compare the odds of owning wealth. Whereas, the multiple linear regression model used to analyses the differences between the wealth such as total wealth, income producing assets and non-income producing assets.

The fourth research study was carried among the residents of England by the Lewis and AV Lewis (2014). Economic, social and psychological contributors were examined in order to measure the place, poverty and susceptibility vulnerability of the households in England. Moreover, methods such as observation and questionnaire were use to explained the causes, possible contributors, indicators and consequences of the vulnerability. The study found that households' financial vulnerability increase with the pervasive poverty. Vulnerable households with poverty having less capacity for coping with unexpected crises and possess insufficient resources to be commanded with.

Furthermore, the fifth study is done in Ireland by Murphy and Scott (2014) in order to examine the extent of rural household vulnerability in rural Ireland. The research conducted compiled a dataset comprising of 900 respondents with 180 respondents within each case study location. Financial vulnerability of households measured using three different variables, includes housing crash, economic crisis and austerity conditions. Thus, questionnaire survey was applied in this study and questions specifically related to the mentioned vulnerability indicators and measures were asked. ANOVA test was used to test the relationship between the residential location and age. The result shows that there was a significant relationship in between of the residential location and age; more financial vulnerable households are located in the areas of greatest housing oversupply.

The sixth study is done by using the data from the Household Finance and Consumption survey (HFCS) in Austria with the purpose to investigate the various groups holding debt and estimates the exposure of banks to potentially vulnerable households (ECB, 2013). Hence, this study determines the indebtedness, potential risk of debt and potential exposure at default and loss given default of the households to measure the households' vulnerability. Sample for this study was comprised by 2380 households. Additionally, two-stage stratified probability sampling was choosing as the research method and questionnaire section was conducted for this study. The research results show that, in Austria, financial vulnerable households are characterized by low income and low wealth.

The seventh study (Hahm, Shin & Shin, 2013) is conducted in Korea. The result of research shows that households' financial vulnerability increase with house price appreciation and account deficit. Finance related variables (rate of depreciation in local currency, rate of decrease in central bank international reserve and rate of increase in money market interest rate) were used to measure the family's financial vulnerability. Thus, this research sample was comprised by 165 countries with 105 countries which have measure of banking sector liabilities to the foreign sector and 60 countries with liabilities of banks to nonbank financial sectors. Besides, this research primary data source is the International Monetary Fund's International Financial Statistics (IFS) database.

Last but not least, the eighth study was carried among the households in rural and urban areas by the Guarcello, Mealli and Rosati (2010).This research is representative at the national and regional level as well as in urban and rural area. Thus, this research study comprised a total of 7,276 households with 3,852 rural households and 3,424 urban households. Moreover, the aim of this study is to assess to what extent capital market imperfections and the inability of households to insure themselves and the family members against risk. Thus, effect of shocks, credit rationing and insurances of the households were examined in order to measure the financial vulnerability of the households in Italy. Methods applied in this research study, includes econometric methodology, multinomial logit model and questionnaire. The study revealed further that households' vulnerability is characterized by high application for credit.

SUMMARY

Based on the review of these findings, topic about the financial vulnerability of the households is increasingly concern globally. The review of study at hand provides a deeper investigation of the various countries and revealed further that households who tends to have low income or low liquid assets, high balance sheet leverage, disability to cope with financial stress and financial crisis were identified as high financial vulnerable. Similarities, most of the countries such as Australia, Austria and Korea applied money related variables in order to measure the level of financial vulnerability among the households. However, Malaysia look it at different angles with more emphasize towards the social and psychological perspectives. Thus, the research study in Malaysia develop variables such cognitive ability, social and chronological variables in order to measure about the financial vulnerability of the households. The core definition of this term, "financial vulnerability" is personal feeling of being in a financially instable situation and one of the early indicators of financial stress of households. Households should always concern and be alert with their finance status; households should immediately take some corrective action when deficit or negative balance sheet leverage occurs. Thus, in order to achieve financial well being, financial vulnerability needs to be mitigates. Hence, this current paper allowed us to overview and get deeper understanding of the financial vulnerability among the households.

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Table 1: Summary of Financial Vulnerability Studies

Country	Variables	Sample	Methods/Sampling Technique	Findings
Europe	IV 1. Age 2. Family type 3. Occupational status of household reference person 4. Number of earner 5. Gender 6. Country • DV 1. Financial Vulnerability	• 12 groups of respondents with age 18 and above	• Questionnaire • Cluster Analysis	Financial vulnerable households are one who tends to have often been in difficulties in the past 12 months and feel that their situation is unlikely to improve.
Malaysia	• IV 1. Cognitive ability , social, chronological • DV 1. Economic vulnerability and financial fragility	• 18 groups of respondents	• Interview • Observation • Data source of Survey of Consumer Finance	Financial vulnerable households are characterized by low levels of liquid assets and high balance sheet leverage.
Australia	• IV 1. Amount of wealth accumulation 2. Predictor of income • DV 1. Financial vulnerability	• 8,864 people aged 45-64.	• Logistic regression • Multiple linear regression	Financial vulnerable individuals have low wealth asset bases and disability to cope with any financial stress.
England	• IV 1. Economic, social and psychological contributors • DV 1. Place, poverty, susceptibility vulnerability	• Residents of England	• Observation • Questionnaire	Households' financial vulnerability increase with the pervasive poverty, thus less capacity for coping with unexpected crises.

Notes: IV = Independent Variable
DV = Dependent Variable

Country	Variable	Sample	Methods/Sampling Technique	Findings
Ireland	• IV: 1. Housing crash 2. Economic crisis 3. Austerity conditions • DV: 1. Household vulnerability	• 900 respondents	• Questionnaire • ANOVA test	• More vulnerable households are located in the areas of greatest housing oversupply.
Austria	• IV 1. Indebtedness 2. Potential risk of debt 3. Potential exposure at default and loss given default • DV 1. Household vulnerability	• 2380 households	• Questionnaire • Data Source of Household Finance and Consumption Survey (HFCS) • Two stage stratified probability sampling	• Financial vulnerable households are characterized by low income and low wealth.
Korea	• IV: 1. Rate of depreciation in local currency 2. Rate of decrease in central bank international reserves 3. Rate of increase in money market interest rate • DV: 1. Financial vulnerability	• 165 countries	• Panel probit study • Data source of International Monetary Fund's (IMF's) International Financial Statistics (IFS) data.	• Households' financial vulnerability increase with house price appreciation and current account deficit.
Italy	• IV 1. Effect of shocks 2. Credit rationing 3. Insurance • DV 1. Financial vulnerability	• 7276 households (3852 rural and 3424 urban)	• Questionnaire • Econometric methodology • Multinomial logit model	Households' vulnerability is characterized by high application for credit.