

# An exploratory study of financial well-being among Malaysian households

Financial well-being among Malaysian households

285

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## Abstract

**Purpose** – The purpose of this paper is to empirically explore the financial well-being (FWB) of Malaysian households and to construct a subjective FWB index with present and future time perspectives.

**Design/methodology/approach** – Data were collected from 1,867 respondents across five major regions in Malaysia. Adapting the InCharge Financial Distress/Financial Well-being (IFDFW) Scale by Prawitz *et al.* (2006) and the method of computing an index by Devlin (2009), this study develops an FWB index using subjective measures that include future time perspectives (retirement). The index was employed to measure the FWB across low-, middle- and high-income groups and socio-demographic characteristics.

**Findings** – This study finds evidence that Malaysians' FWB is at an average level (46.8). Middle-income households' FWB (46.1) flanks between the financial well-being index (FWBI) levels of the low-income (37.4) and high-income households (58.7). Across age groups, education levels and employment sectors, the FWB of Malaysians significantly varies, although not across different ethnics, religions, zones and residential areas. Overall, the results suggest that the detrimental effects of FWB are perceived by all Malaysian households nationwide regardless of their religion, ethnicity and residential areas.

**Practical implications** – The results of this study complement the other well-being indices used by policymakers and may serve as a useful input for government and policymakers for them to formulate appropriate strategies to promote higher FWB of Malaysian households based on their socio-demographic characteristics.

**Originality/value** – This study used primary data and developed a subjective FWB index that leverages on people's perceptions of their own financial well-being while including present and future time perspectives. The main contribution of this paper is to construct an index that is easily interpretable and that complements the existing FWB indices, and to identify the segments of society that have low vis-à-vis high FWB.

**Keywords** Malaysia, Household income, Index, Households, Financial well-being, Subjective measurement

**Paper type** Research paper

## 1. Introduction

Global economic uncertainties since the past decade and in recent years have had an adverse impact on many households across nations, including Malaysian households. The Malaysian economic landscape has observed increasingly competitive business environments, tough labour market conditions and high costs of living, which have affected households and consumers at large. Firms across various sectors have had to downsize their workforce (The Star Online, 2015; Balakrishnan, 2016), and such actions have detrimental effects on the well-

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being of workers due to loss of jobs and their source of income (Helliwell *et al.*, 2014). Meanwhile, the implications of increasing costs of living are a strain on households' purchasing power and an upsurge in the use of credit and debts (Zainol *et al.*, 2016; Azman *et al.*, 2017). Ultimately, these economic challenges imply that there may be an undesirable effect on the financial well-being (FWB) of Malaysians (Subramanian *et al.*, 2014), plausibly developing into other socio-economic adversities such as increased unemployment, poverty and crime.

Recognising these financial hardships, over the years, the Malaysian government has continuously put in concerted efforts to uplift the state of well-being among its society. One of the National Key Results Areas (NKRAs) in the Government Transformation Programme (GTP) launched in 2011 specifically addressed the issue of rising cost of living in Malaysia. These issues have been given due attention by policymakers especially for the low-income household (denoted as the bottom 40% or B40 group) and middle-income households (denoted as the middle 40% or M40 group), as these two income groups constitute a significant 80% of total households in Malaysia. Therefore, ensuring that these segments of society attain their desired level of FWB continues to be a major concern to the Malaysian government. The main thrusts of the recent federal budgets are clear indications of the government's attempts to elevate societal welfare, particularly for the B40 and M40 households. In the national federal budgets, various tax incentives have been enforced to help increase the disposable income among both income groups' households. In addition, numerous initiatives to increase knowledge, skills and educational attainment have also been implemented in efforts to improve the livelihood of these segments of society.

To gauge the level of Malaysians' overall well-being, the main social indicator used by the policymakers is the Malaysian Well-being Index (MWI). Defined as "the physical, social and economic benefits that contribute to the enhancement in the quality of life and satisfaction of an individual, family and the economy" (EPU, 2013), the MWI measures the well-being of society from economic and social perspectives. However, although indexes such as the MWI are useful indicators of a society's well-being, such objective measures have their limitations. Computations of MWI that is based on monetised components of economic activity such as income and expenditure data (Pudney, 2011) ignore the psychological perceptions and emotional aspects of individuals on their own state of well-being. Despite having the same level of wealth or income, one's happiness and satisfaction may vary from another individual due to differences in feelings, beliefs, values, habits and preferences (Prawitz *et al.*, 2006). Furthermore, the accuracy of monetary measures is highly susceptible to measurement error due to missing values or inaccuracy of reporting (Hurd *et al.*, 2003).

In view of the aforesaid limitations of objective measures, subjective well-being measures have gained popularity and are accepted as reliable scientific appraisals of life satisfaction across many disciplines (e.g. Diener *et al.*, 2002; Prawitz *et al.*, 2006). In the context of Malaysia, the Malaysian Family Well-being Index (MFWBI) has been used as a subjective measure of *family* well-being. However, as will later be discussed in Section 2.2, the MFWBI has its limitations due to its limited scope on families with children aged between 3 and 24 years. Thus, its generalisability to Malaysian households can be viewed as insufficient. Furthermore, the literature still shows inconsistencies and the lack of a unanimously agreed-upon definition and measurement of subjective financial well-being (Brüggen *et al.*, 2017). Therefore, it is believed that continuous works in measuring financial well-being is still relevant in today's highly challenging financial landscape.

In Brüggen *et al.*'s (2017) comprehensive conceptual paper on FWB, they propose a research agenda for FWB studies from which this paper is partly motivated. In particular, they suggest that researchers should explore the "mismatch between objective and subjective indicators of well-being" and "develop reliable and valid measures for FWB on individual, household, and group levels" (Brüggen *et al.*, 2017, p. 234). Therefore, this study will construct

an FWB index (FWBI) that is modified and adapted from two studies – Prawitz *et al.* (2006) and Devlin (2009) – to encapsulate the psychological perceptions and emotions to better reflect Malaysian households' financial satisfaction. The adapted FWBI addresses the mismatch in the present MWI (objective measure) and MFWBI (subjective measure) to provide a clearer picture of the FWB of Malaysian households.

Motivated by Brügger *et al.*'s (2017) research agenda, this paper has two main objectives. The *first objective* of the paper is to compare the level of FWB among Malaysian households of different income groups, namely, the low-, middle- and high-income groups (i.e. the B40, M40 and T20, groups, respectively). Finally, the *second objective* of this paper is to analyse the differences in FWB across socio-demographic characteristics. The *second objective* addresses another suggestion made by Brügger *et al.* (2017), that is, to conduct studies that will assist policymakers develop and implement interventions to improve FWB. Policymakers may use the FWBI along with the objective index to close the gap between the possible inconsistencies of the objective and the subjective well-being index. Based on the findings, the policymakers will be able to identify the vulnerable groups in the population that have low FWB, according to their socio-demographic profile, and can therefore introduce policies that can effectively improve the FWB of the financially vulnerable households.

This study has two contributions. *First*, the constructed subjective FWBI that is modified and adapted from two studies, Prawitz *et al.* (2006) and Devlin (2009), encompasses two time dimensions: present and future financial satisfaction. Our measurement of FWB covering two time dimensions is motivated from the suggestion of Brügger *et al.* (2017). *Second*, this paper provides a detailed description of the differences in FWB across household income and socio-demographic characteristics in the Malaysian context. The FWBI of this study can be used to complement the existing two well-being indexes where we offer a subjective measure of financial satisfaction that is tested across different households' socio-demographic characteristics. The derived index will give policymakers a clear and holistic indication of the general state of financial well-being of Malaysian households. The results of this study will support evidence-based policymaking to enhance the financial satisfaction and overall quality of life of vulnerable groups.

In the next section, we review the literature on FWB. In Section 3, the methodology of the study is explained, and in Section 4, we analyse the data and discuss the results. In Section 5, we conclude the paper by offering policy implications for policymakers and recommendations for future research.

## 2. Literature review

### 2.1 Financial well-being

FWB is one of the subcomponents of personal well-being, and its definition has varied among researchers. Originally, FWB was described as a state of happiness or general satisfaction with one's financial situation, encompassing a person's satisfaction with income and savings, a sense of material security, perceptions of opportunities available and a sense of fairness of the reward distribution system (Strumpel, 1977). Other researchers define FWB as "a state of being financially healthy, happy, and free from worry" which is typically based on a subjective appraisal of one's financial situation (Joo *et al.*, 2008; Sabri and Falahati, 2012). The definition of FWB has developed from simple happiness or general satisfaction about one's material or financial condition, to a complex perception that includes the combined perception of both material and non-material aspects of an individual's financial situation (Delafrooz and Paim, 2011). Brügger *et al.* (2017) conclude that the conceptualisation of FWB in the literature is fluid and unclear, leading to many inconsistencies in its definition, and hence its measurement.

The literature shows that FWB has been measured using objective and/or subjective measures. Brügger *et al.* (2017) articulate that there are three clusters of measurements of

FWB – those that use objective, those that use subjective measures or those that combine both objective and subjective measures. In regard to studies that use objective measures, [Greninger et al. \(1996\)](#) develop a comprehensive measurement of FWB consisting of household savings, expenses, asset allocation, insolvency/credit, liquidity position, tax expenses and inflation protection. Other researchers use creditworthiness, amount of available emergency funds, allocation of monthly credit card payments, monthly loan payments, monthly allocation of money for savings and preparation for retirement in the future, as measures of objective FWB ([Delafrooz et al., 2010](#)).

Meanwhile, in the second cluster of FWB measurement, [Kim et al. \(2003\)](#) measure subjective FWB as the perceptions regarding debt status, ability to meet monthly expenses and financial satisfaction. Using the measurements of [Porter \(1990\)](#) and [Joo \(1998\)](#), [Kim et al. \(2003\)](#) develop FWB using four items: “*satisfaction with personal financial situation*”, “*perceived financial wellness*”, “*feelings about current financial situation*” and “*level of stress about personal finance*”. [Prawitz et al. \(2006\)](#) develop an instrument to measure the level of stress and well-being based on an individual’s financial condition. Constructed based on a Delphi method, the FWB construct was measured as a continuum ranging from negative to positive emotions towards certain financial conditions. The scale is termed as the InCharge Financial Distress/Financial Well-being (IFDFW) Scale. Numerous studies based on the IFDFW have been conducted in numerous other parts of the worlds, such as in Australia ([Gerrans et al., 2014](#)), Nigeria ([Kemisola-Christianah et al., 2019](#)), India ([Sivaramakrishnan and Srivastava, 2019](#)), Italy ([Dickason-Koekemoer and Ferreira, 2019](#)) and Malaysia ([Mokhtar et al., 2015](#)).

The third cluster of measurement uses a combination of both objective and subjective measures of FWB. For example, [Shim et al. \(2009\)](#) combine the level of debt (objective measure) with perceived satisfaction of financial status (subjective measure). [Porter and Garman \(1992\)](#) use income level and perceived satisfaction of standard of living, which essentially combine both objective and subjective measures of FWB. Similarly, [Lanz et al. \(2019\)](#) use both subjective and objective measures of FWB in a study on emerging adults in Italy.

### 2.2 FWB in the context of Malaysia

In the context of Malaysia, [Jariah \(2007\)](#) pioneered the works on FWB, and numerous studies have ensued. However, studies on FWB in the context of Malaysia have echoed the inconsistencies in measurements as of those in international contexts. Variations are noted in the number of measurement items of the *subjective* FWB construct, ranging from four to twelve items (e.g. [Sabri and Zakaria, 2015](#); [Mokhtar et al., 2015](#); [Mokhtar and Husniyah, 2017](#)), while others have used *objective* measures of FWB such as saving and debt-payment ratios (e.g. [Zaimah et al., 2013](#)). In addition, the works appear to be rather limited as most of these studies have been based on a relatively small sample size and focused on specific segments of society such as public-sector employees, elderly individuals or college students (e.g. [Zaimah et al., 2013](#); [Mokhtar et al., 2015](#); [Mokhtar and Husniyah, 2017](#); [Falahati and Paim, 2011](#); [Yin-Fah et al., 2010](#)). Hence, it can be viewed that FWB measurements in Malaysia are still very much segmented and inconclusive.

In terms of policymaking well-being measures, there are two macro-level indexes being used by the Malaysian government. The first is the MWI measured by Malaysia’s Economic Planning Unit (EPU) which is a social indicator that tracks Malaysians’ well-being over time. The MWI employs 68 indicators, 14 components and two sub-composites – economic and social well-being. The first composite, *economic well-being*, consists of five components including income and distribution which are measured based on objective measures such as real per capita income (GNP), disposable income and poverty.

The other well-being indicator used in Malaysia is the MFWBI by the National Population and Family Development Board (NPFDB). Family well-being is defined as “*a safe, healthy,*

*comfortable harmonious and satisfying family condition*” covering aspects such as spiritual satisfaction, psychosocial attributes and financial security (NPFDB, 2011, 2016). The index, which is based on subjective perceptions via survey questionnaires, has thus far been conducted in two cycles – 2011 and 2016. The index covers eight (8) domains ranging from *family relationship, family economy, health, safety, family and community involvement, religion and spiritual practices, housing and environment* and *communication technology*. The *family economy* domain covers *financial well-being* and *financial management* indicators. Although the measurement of family well-being in the MFBWI is comprehensive and constructed based on subjective measures, the survey is limited to Malaysian parents with children between 3 and 24 years of age. Hence, the scope of the index is viewed to be inadequate, as it does not represent Malaysian households that are excluded from that criteria.

In view of the above issues in definition and measurement of FWB, we take a similar stance as that of Brüggen *et al.* (2017) that the subjective approach may be a more appropriate measure since only an individual himself or herself can assess the level of his/her own financial well-being. Therefore, one’s level of income will not influence financial well-being since there are so many other heterogeneous factors such as family size, expenses, debt and stressor events that differ from one household to another. In this study, we define FWB as *the feeling of self-fulfilment over one’s present financial standing, being assured of meeting regular living expenses and emergency costs, possessing financial freedom to conduct activities as one pleases and feeling confident about one’s future retirement*. This definition differs slightly from that of past studies (e.g. Consumer Financial Protection Bureau, 2015; Prawitz *et al.*, 2006; Drever *et al.*, 2015), as our definition includes two time dimensions, that is, perceived well-being in the present moment and in the future (retirement), following the conceptual suggestion of Brüggen *et al.* (2017).

The present paper attempts to fill the gaps in the literature by providing an all-inclusive subjective definition of FWB that not only covers a more diverse sample encompassing a wider range of households in Malaysia but one that covers the time dimensions of present and future financial situation. The index in this study is converted into a score of 100, which is easily interpretable. The FWBI used in this study will complement the existing indexes to give a better picture of Malaysians’ FWB. We believe that the results of this study will provide evidence that can be useful to policymakers with respect to providing targeted programmes to elevate the state of FWB across Malaysians according to their socio-demographic characteristics.

### 3. Methodology

#### 3.1 Sample and data

As of 2019, Malaysia has a population of 32.6 million and 6.35 million households (Department of Statistics Malaysia, 2019). To allow reliable inferences and generalisations to be made of the population, studies should be cautious in obtaining a sample that is sufficiently large and representative of the larger population (Maleske, 1995). Henceforth, given the limited time and resources available, the present study is conducted as a cross-sectional study and employs a two-stage sampling approach. In the *first stage*, a stratified sampling method is conducted to ensure representativeness of households across five major regions in Malaysia (Central, Southern, Northern, East Coast and East Malaysia). In the *second stage*, respondents were selected based on a convenience sampling approach in which respondents were chosen based on their availability. Primary data were collected by appointment enumerators who approached the respondents from public areas such as neighbourhood areas, shopping malls, bus stations, schools, markets, public hospitals and offices. We acknowledge that convenience sampling method may have its limitations of

generalisability; however, this method was deemed acceptable due to its time and cost advantages while still ensuring that a sufficiently large sample was obtained from across Malaysia. Hence, after a two-month period, we managed to obtain a total of 1,867 useable responses for the study. As per Krejcie and Morgan (1970), the sample size is deemed sufficiently large to allow reliable statistical inferences to be made of the population.

Table 1 depicts the segmentations of Malaysia’s thirteen states and three federal territories according to five geographical regions. As can be observed, the sampling distribution in the Central and East Coast regions closely resemble the Malaysian population distribution in those respective areas. For the Southern region, the sampling distribution is marginally over by 10% from the population percentage, while for the Northern and East Malaysia regions, the percentages are less by 5 and 7%, respectively, from the population percentages. In essence, the two-stage sampling approach yielded quite a fair representation of the population according to strata; however, the accessibility of respondents in the second stage of approach using convenience sampling resulted in marginal discrepancies in the distribution. Despite the minor discrepancies, the sample size is viewed reasonable to allow reliable statistical inferences to be made regarding the issues being examined in this study.

### 3.2 Financial well-being measurement

The first and main objective of the paper is to construct a subjective index that is focused on financial well-being for Malaysian household. Following a comprehensive literature review on the subject matter, the measurement for FWB employed in this study is adapted from the well-established IFDFW Scale developed by Prawitz *et al.* (2006). The IFDFW has been rigorously tested for content and construct validity and is simple and easy to administer (Garman *et al.*, 2007). However, we made minor modifications to suit the definition of FWB, as provided in Section 2, of having two time dimensions (present and future) and also to suit the local Malaysian scenario. In addition, the computation technique for the FWBI was adapted from Devlin (2009) who constructed an index on customer’s perceived fairness of financial services. Based on the modified instrument, we conducted a pre-test of the questionnaire with four local and one international scholars in the field, primarily to get their opinions on the suitability of the questions as well as on the translated version of the questionnaire (in the local Malay language). Their comments were taken into consideration, and minor adjustments were made. The questions of the Malay language were proof-edited by a professional editor. In summary, the following modifications that were made are shown in Table 2

The above changes are viewed reflective of our definition of FWB encompassing the present and future time dimension. As a result of the changes, our measurement of FWB comprises of nine (9) items, as opposed to eight (8) items by Prawitz *et al.* (2006). We retain the

Region	States	Malaysian population (%)	Sample size	Sample (%)
1 Central	Selangor, Kuala Lumpur, Putrajaya	25.8	526	28.2
2 Southern	Negeri Sembilan, Malacca, Johor	17.8	515	27.6
3 Northern	Perlis, Kedah, Penang, Perak	20.7	293	15.7
4 East Coast	Kelantan, Terengganu and Pahang	14.5	288	15.4
5 East Malaysia	Sabah, Sarawak, Labuan	21.0	245	13.1
	<i>Total</i>	<i>100.0</i>	<i>1,867</i>	<i>100.0</i>

**Table 1.**  
Distribution of sample according to strata

**Table 2.** Revisions made on the FWB measurement

Revision	Details	Justification
Revised item	The original item “ <i>How frequently do you find yourself just getting by financially and living paycheck to paycheck?</i> ” was changed to “ <i>How frequently do you find yourself eagerly awaiting for the next pay day?</i> ” The original item “ <i>On the stair step below, mark how satisfied you are with your present financial situation</i> ” was changed to “ <i>Are you satisfied with your personal finances?</i> ”	The original question was deemed unsuitable in the Malaysian context as the term “paycheck” may not be understood or be relevant to some people  The item was changed to maintain consistency of using a 10-continuum scale as with other items measuring FWB, as suggested by the expert opinion
Additional items	<i>How secure do you feel about your retirement plan?</i> <i>How confident are you that you’ll have a financially comfortable retirement?</i>	These two items are added to represent the time dimension of the future

**Note(s):** The distribution by region is derived from the extrapolated population estimation in 2016 conducted by the Department of Statistic Malaysia ([https://www.dosm.gov.my/v1/index.php?r=column/cthem&menu\\_id=L0pheU43NWjwRWVSZklWdzQ4TlhUUT09&bul\\_id=OWlxdEV0YlJCS0hUZzJyRUcvZEYxZz09](https://www.dosm.gov.my/v1/index.php?r=column/cthem&menu_id=L0pheU43NWjwRWVSZklWdzQ4TlhUUT09&bul_id=OWlxdEV0YlJCS0hUZzJyRUcvZEYxZz09))

continuum 10-point Likert scale, indicating low levels to high levels of FWB as per [Prawitz et al. \(2006\)](#). The items for FWB, which have different anchors for its rating scales, are later presented in [Section 4.2 \(Table 3\)](#). Finally, by adopting [Devlin’s \(2009\)](#) method, we use the FWB scores to compute the FWBI that is easily interpretable (over a total score of 100).

### 3.3 Classification of the B40, M40 and T20 groups

Our second objective in this study is to provide a detailed description of the differences in FWB across household income groups in Malaysia. To achieve this, we need to categorise the household according to three income levels: the bottom 40% (B40), middle 40% (M40) and top 20% (T20) groups, signifying the percentage of households in the respective income categories as a percentage of the total households in Malaysia. In Malaysia’s 11th Malaysian Plan, B40 households are defined as those with household monthly income below RM3,860, middle-income households are those earning between RM3,860 and RM8,320 and T20 households are those earning more than RM8,320 monthly ([EPU, 2015](#)) [1].

## 4. Data analysis

### 4.1 Descriptive analysis

The results of the descriptive analyses are presented in [Table 3](#). The respondents are mainly male (53.7%), and about 70% of the total respondents fell between the age range of 25–44 years of age. In all, 67% of the respondents were Malay, which is the majority ethnic group in Malaysia. Hence, it is also not surprising that most respondents were also Muslims (73.3%). The second largest ethnic group is Chinese (12.6%), followed by Bumiputera Sabah and Sarawak (10.9%). A total of 41.2% of respondents were bachelor degree holders, followed by 22.2% of diploma holders and 14.1% having passed secondary school. Approximately 70% of the respondents are married and live in urban areas.

### 4.2 Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was conducted to test for internal consistency and to establish the underlying latent constructs of the FWB variable. Further to that, a reliability tests were conducted through measurement of Cronbach’s alpha. Results of a principal

Variables		Frequency ( <i>n</i> = 1867)	Percent (%)
Gender	Male	1,002	53.7
	Female	865	46.3
Age	Below 25	132	7.1
	25–34	706	37.8
	35–44	631	33.8
	45–54	318	17.0
	55 and above	80	4.3
Religion	Islam	1,368	73.3
	Buddha	191	10.2
	Sikh	19	1.0
	Hindu	123	6.6
	Christian	161	8.6
	Others	5	0.3
	Ethnic	Malay	1,243
	Chinese	235	12.6
	Indian	173	9.3
	Bumiputera Sabah and Sarawak	203	10.9
	Others	13	0.7
Highest education level	Secondary level	264	14.1
	Certificate level	206	11.0
	Diploma level	414	22.2
	Bachelor's degree	770	41.2
	Masters	179	9.6
	PhD	34	1.8
Employment status	Government sector	892	47.8
	Private sector	683	36.6
	Self employed	209	11.2
	Non-employed	83	4.4
Marital status	Single	489	26.2
	Married	1,304	69.8
	Divorced/Widowed	74	4.0
Residential area	Urban	1,295	69.4
	Rural	572	30.6
Household income (group)	B40 (less than RM3,900)	360	19.3
	M40 (RM3,900–8,300)	1,149	61.5
	T20 (RM8,301 and above)	358	19.2

**Table 3.**  
Descriptive analysis

component analysis (PCA) extraction method revealed that the FWB construct is unidimensional and loaded under a single factor. Reliability tests produced Cronbach's alpha of 0.927. Although Cronbach's alpha is slightly lower than [Prawitz et al.'s \(2006\)](#) original reliability score of 0.956, in this study it is sufficiently high to infer high reliability. The factor loadings of each item range were from 0.852 to 0.770 ([Table 4](#)).

#### 4.3 Construction of financial well-being index (FWBI)

**4.3.1 FWB score.** To construct the FWBI, we first compute the FWB score by taking the average score of all nine (9) items, to form a composite score. Since the items are measured on a continuum 10-point scale, the score can take up a range of 1–10. From [Table 5](#), results reveal that the mean score for FWB is 5.2148 (SD = 1.868). The skewness of 0.100 which falls between –1.0 and 1.0, and the kurtosis of –0.156 which falls between –2.0 and 2.0, suggest that the data are normally distributed.

**4.3.2 Constructing the index.** The technique of computing the FWBI is adapted from [Devlin \(2009\)](#) who constructed an index to measure the perceptions of consumers on the



Item	Anchoring scale	Factor loading
1. What do you feel is the level of your financial stress today?	Overwhelmingly stressed – No stress at all	0.822
2. Are you satisfied with your personal finances?	Completely dissatisfied – Completely satisfied	0.838
3. How do you feel about your current financial situation?	Feel completely overwhelmed – Not overwhelmed at all	0.797
4. How often do you worry about being able to meet your monthly living expenses?	Worry all the time – Never worry	0.852
5. How confident are you of finding the money to pay for a financial emergency costing RM 1,000?	No confidence – High confidence	0.775
6. How frequently do you find yourself eagerly awaiting for the next pay day?	All the time – Never	0.77
7. How often does this happen to you – you want to go out to eat, go to movie or do something else and don't go because you can't afford to?	All the time – Never	0.751
8. How secure do you feel about your retirement plan?	Not secure – Very secure	0.792
9. How confident are you that you will have a financially comfortable retirement?	No confidence – High confidence	0.790
Cronbach's alpha		0.927

**Table 4.** Confirmatory factor analysis for FWB

	N	Min	Max	Mean	Std. Dev	Skewness		Kurtosis	
						Statistic	SE	Statistic	SE
FWB	1867	1.00	10.00	5.2148	1.86804	0.100	0.057	-0.156	0.113

**Table 5.** Descriptive statistics

fairness of financial services in United Kingdom. Devlin (2009) developed an index that measures customers' perceived fairness of financial services using two fairness dimensions, namely, procedural justice and distributive justice. In contrast, this study constructs an index to measure subjective FWB modified from Prawitz *et al.* (2006) to reflect both present and future financial satisfaction. We only follow Devlin's (2009) technique to generate our FWB construct into an index score using Eqn (1) and Eqn (2). In Devlin's (2009) study, the index was developed from items that employed a 5-point Likert scale measurement, while the present study makes a minor modification to suit a 10-point Likert scale instead. We used the basic formula specified by Devlin (2009) to compute the index. Based on Devlin (2009),  $m$  represents the number of maximum score per item (i.e. the maximum number on the Likert scale). Hence, we adjusted the  $m$  in the following formula from 5 to 10, since our measurement uses a 10-point scale.

$$\text{Index Score} = [s - 1] \times \frac{100}{[m - 1]} \tag{1}$$

where  $m$  denotes the maximum score (10) per item and  $s$  represents the respondent's self-reported score for each item, ranging from 1 to 10. Hence, if the respondent answers 10 on the scale, his index score for the item is  $= (10-1) \times 100/9 = 100$ ; if he answers 6 on the scale, his index score for the item is  $= (6-1) \times 100/9 = 55.5$ ; and if the respondent answers 1 on the scale, his index score for the item is  $= (1-1) \times 100/9 = 0$ .

The FWBI scores for all the items generated in Eqn 1 are used to compute the overall index score for each respondent. To achieve this, we use the following formula:

$$FWBI = \frac{\sum_{i=1}^n \text{Index Score}}{n} \tag{2}$$

where the index scores are generated from Eqn 1, while  $n$  is the number of items (9) to produce the overall FWBI score for each respondent. By converting the score into an index, the highest attainable index is 100, reflecting a perfect score of FWB and no financial distress, and the lowest attainable index is 0, reflecting the lowest level of FWB and a maximum level of financial distress. We adapt Prawitz *et al.*'s (2006) descriptive terminology to interpret the FWBI scores (Table 6).

4.4 Objective 1: FWB of Malaysian households

The first objective of this study is to assess the FWB of Malaysian households using the derived FWBI, and compare their FWB of B40, M40 and T20 households. From the FWBI construction from Section 4.3.2, results reveal that households, on average, have FWBI score of 46.83 (Table 6). As per the descriptive terminology for interpreting this index (Table 5), the results suggest that Malaysian households generally have an average FWB, reciprocally having an average level of financial distress. As expected, the subjective measure of FWB significantly differs among the three household categories. The B40 households have the lowest FWBI of 37.37, followed by the M40 where their FWBI is 46.11 and T20 households have the highest reported FWBI of 58.67. When we map the three income groups' FWBI score, the score clearly shows that the B40 group has poor FWB levels, and is therefore financially distressed. Meanwhile, M40 households have an average FWBI. Surprisingly, T20 households are in an only slightly better position than the M40 groups where the high-income earners also have a moderate level of FWB and moderate financial distress. One-way ANOVA tests indicate that the differences in the FWBI of each household income category are statistically significant at the 1% level ( $F = 111.291, p = 0.000$ ) (Table 7 and Table 8).

**Table 6.**  
Descriptive terminology for interpreting the FWBI

FWBI		Descriptive terminology
High	100	No financial distress/highest financial well-being
	89–99	Extremely low financial distress/extremely high financial well-being
	78–88	Very low financial distress/very good financial well-being
	67–77	Low financial distress/good financial well-being
Moderate	56–66	Moderate financial distress/moderate financial well-being
	44–55	Average financial distress/average financial well-being
Low	33–43	High financial distress/poor financial well-being
	22–32	Very high financial distress/very poor financial well-being
	11–21	Extremely high financial distress/extremely low financial well-being
	0–10	Overwhelming financial distress/lowest financial well-being

**Note(s):** Adapted from: Prawitz *et al.* (2006)

**Table 7.**  
FWBI of the low-, middle- and high income households

Household income category	$n$	FWBI	SD	Min	Max
B40	360	37.37	19.24	0.00	90.12
M40	1,149	46.11	19.37	0.00	100.00
T20	358	58.67	20.96	0.00	100.00
Total	1867	46.83	20.75	0.00	100.00

We further scrutinise the FWB by examining the scores for each item that was used to measure the index. The idea is to examine which items are better or more critical than others. Figure 1 depicts the mean score (over a maximum of 10) for each item of the FWB measurement, segregated according to household income groups. Clearly, the figure shows that B40 households score the lowest in all items (indicated by the blue bar), while high-income households (T20) have the highest FWB across all items. Among the nine (9) items, it appears that Malaysian households score the highest for their confidence in finding RM1,000 for financial emergencies – the T20 group scored highest for this item at 7.64, followed by the middle-income households (M40) that scored 5.66. The second highest score across all household income groups was reported as being able to eat out and go to watch movies. Even the B40 respondents scored highest for this item (4.82), compared to other items. Among the T20 households, the lowest scoring items were their feelings of financial stress (5.84) and satisfaction with personal finances (5.88). It can be observed that the mean score for all items was below 4.50 for the B40 households, and the lowest scoring item was for worrying about meeting monthly living expenses. Generally, the results indicate that Malaysian households across all household income group are not satisfied and feel distressed about their finances.

	Sum of squares	df	Mean square	F	Sig
Between groups	86,437.506	2	43,218.753	111.291	0.000
Within groups	723,862.754	1864	388.338		
Total	810,300.260	1866			

Table 8. One-way ANOVA tests

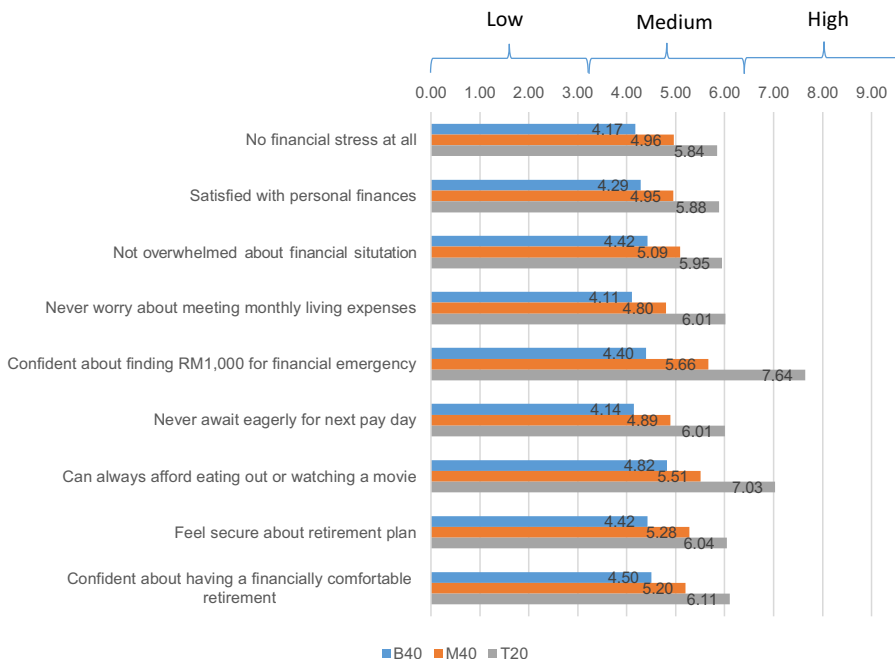


Figure 1. Scores of FWB by item

#### 4.5 Objective 2: differences in FWB across socio-demographic factors

The *second objective* of this paper is to examine the differences in FWBI across socio-demographic characteristics. The purpose is to be able to identify the groups that have low FWB based on socio-demographic characteristics. One-way ANOVA tests are conducted on FWB across socio-demographic factors such as age, marital status, education level, employment sector and others. As per [Table 9](#), results show that the FWBI significantly differ across the categories of age ( $F = 13.352, p < 0.000$ ), education ( $F = 11.877, p < 0.000$ ), individual income level ( $F = 49.808, p < 0.000$ ), household income level ( $F = 79.446, p < 0.000$ ), employment ( $F = 7.994, p < 0.000$ ) and marital status ( $F = 8.370, p < 0.000$ ). Their FWB level draws parallel to their age, employment type, income and education levels, supporting the results of past literature (e.g. [Ross and Huber, 1985](#)).

[Table 9](#) shows significant differences of FWBI across age groups, whereby higher age groups reported higher FWBI than their younger counterparts. These results support prior evidence that as people get older, they are more likely to have accumulated more financial assets and have a lower tendency to spend ([Hansen et al., 2008](#)). Similar results are also observed with regard to FWB and household income. The results infer a positive correlation between income earned by the household and their satisfaction level towards their finances. Thus, among Malaysians, the poorest households are the most affected group due to adverse changes to the financial circumstances, supporting the results of prior studies (e.g. [Brown and Gray, 2016a](#); [Mirowsky and Ross, 1999](#)).

The results of the ANOVA tests also highlight significant differences in the FWBI across education levels. Those who attained the highest formal education (postgraduate level) reported having the highest FWBI (52.09), followed by those who completed their undergraduate studies (47.02). These results support prior studies that have suggested that education is associated with FWB, by way of increasing their human capital level and disposable income ([Ross and Huber, 1985](#); [Vosloo et al., 2014](#)).

Apart from the above, the results also reflect that married and self-employed respondents are financially happier than their counterparts. Respondents who reported being married had an average FWB score of 48.04 versus those who reported are being single, divorced or widowed, with an average score of 44.36 and 40.88, respectively. Meanwhile, the association between type of employment and FWB indicated that those who were self-employed scored the highest at 48.29. These results are consistent with previous studies like [Ross and Huber \(1985\)](#), [Joo and Grable \(2004\)](#) and [Falahati and Paim \(2011\)](#).

Nevertheless, the findings of our study were contrary to previous studies that indicate significant differences in FWB across religious groups ([Helliwell, 2006](#)), ethnic groups ([Thoits and Hewitt, 2001](#)) and residential areas ([Gerdtam and Johannesson, 2001](#)). An interesting conclusion that can be made from these results is that no matter what race, religion or place of residence, Malaysians in general are feeling distressed with their financial situation.

## 5. Conclusion and implications

The current economic challenges faced by Malaysian households have attracted special attention from policymakers, researchers and academics. The main thrust of this study is to explore the FWB levels of Malaysian households. Adapting the IFDFW scale by [Prawitz et al. \(2006\)](#) and the method of computing an index by [Devlin \(2009\)](#), this study develops an FWBI using subjective measures, and across two time dimensions (present and future retirement), based on the perceptions and emotions of individuals regarding their current and future financial satisfaction. The index was employed to measure the FWBI simultaneously across three Malaysian household income categories and socio-demographic characteristics. As the index is able to capture the perceptions and emotions of Malaysians regarding their FWB, it will act as a complement to the existing indexes such as the MWI and MFWBI and will

	FWB index Mean (SD)	Sum of squares	df	ANOVA Mean square	F	Sig.
Age	Below 25	Between groups	4	5648.423	13.352	0.000
	25-34	Within groups	1862	423.043		
	35-44	Total	1866			
	45-54					
Employment sector	55 and above	Between groups	3	3432.894	7.994	0.000
	Government sector	g	1863	429.416		
	Private sector	Total	1866			
	Self-employed					
Marital status	Non-employed	Between groups	2	3759.769	8.730	0.000
	Single	Within groups	1864	430.676		
	Married	Total	1866			
	Divorced/Widowed					
Education	School and cert	Between groups	2	5098.055	11.877	0.000
	Diploma and degree	Within groups	1864	429.240		
	Master & PhD	Total	1866			
Religion	Islam	Between groups	5	574.908	1.325	0.251
	Buddha	Within groups	1861	433.867		
	Sikh	Total	1866			
	Hindu					
Ethnic	Christian	Between groups	4	373.975	0.861	0.487
	Others	Within groups	1862	434.374		
	Malay	Total	1866			
	Chinese					
	Indian					
	Bumi S&S					
	Others					
	Urban					
	Rural					
Residential area	Between groups	1	118.748	118.748	0.273	0.601
	Within groups	1865	810.181511	434.414		
	Total	1866	810,300.260			
Zone	North	Between groups	4	507.609	1.169	0.322
	Central	Within groups	1862	434.087		
	South	Total	1866			
	East Coast					
East Malaysia						

**Table 9.** Differences in FWBI across socio-demographic factors

enlighten the government and policymakers on the general state of Malaysian households' FWB/distress.

This study finds evidence that the overall Malaysian households' FWB level is between average and poor, while the FWBI across the income groups differed significantly. The B40's FWBI is lowest, reflecting the financial hardships faced by the group, and reciprocally suggests a high level of financial distress. In line with the existing literature, this study finds that the FWB of Malaysian households differs according to socioeconomic background including age, education, employment and marital status (Ross and Huber, 1985; Joo and Grable, 2004; Falahati and Paim, 2011). Nevertheless, the FWBI for religion, ethnic and residential area was found to have no significant difference among the respondents. This suggests that the detrimental effects of the FWB are perceived by all Malaysian households nationwide regardless of their religion, ethnicity as well as their residential areas. It stands to reason then that any targeted interventions to increase the level of FWB in the general population must consider the influential socioeconomic backgrounds and foremost their current financial positions. The findings confirm that individuals who are more matured and educated are more likely to have higher FWB. This is line with previous studies that shown that higher financial literacy (an indicator of education and maturity) resulted in higher level of FWB (Falahati and Paim, 2011). Thus, an understanding about matters related to finance should be given at an early age. Further, the findings of the study suggest that the government's focus should not be restricted to any specific religion, ethnic group or residential area, but rather to the household income. The income position of the comparison groups provides more valuable information regarding a household's potential future financial position. Therefore, in tackling the FWB of the population, the advocates should consider the factors of determination and their magnitude based on each income group.

Upon scrutiny of each FWB item that is used to form the FWBI (Figure 1), the study finds that Malaysian households are quite stressed about their personal finances and often worry about meeting their monthly expenses. The low-income households, especially, tend to eagerly wait for their upcoming pay, suggesting that they live on rather tight monthly budgets. However, most Malaysian households are confident about being able to come up with a financial emergency expense and appear to be able to afford dining out and going for movies. Hence, it can be inferred that spending for leisure and lifestyle purposes is regarded as quite important for Malaysian households, despite having difficulty living on tight monthly budgets. This is a signal to service providers such as restaurant and entertainment operators to strategically price their products and services to cater for customers according to their willingness to pay, or, in other words, their price elasticity of demand. Segmenting the market according to price elasticities of demand would be mutually beneficial for both the service provider and customers of different income categories because Malaysian households seem to value the experience of dining out and watching movies, and this clearly contributes to their perceived financial satisfaction. Segmenting the market and pricing products and services according to elasticities of demand would also benefit service providers as they are able to widen their market share and increase profits.

This study is, of course, not without limitations. First, one may argue that there may be drawbacks of using subjective measures rather than objective measures such as monetised income measures in the development of the FWBI. However, we strongly believe that the use of subjective measures provides a more superior and genuine reflection of one's financial satisfaction, happiness and well-being. FWB may be difficult to gauge using objective income measures since each individual's life situation, including their expenditures, lifestyle, family size and life conditions, will differ. Another possible limitation of the study would be that this study is cross-sectional in nature; hence, it captures the perceptions of Malaysians at one point in time. A true examination of causality will be greatly enhanced through a longitudinal study that could effectively capture the changes and effects of the determinants of FWB over

time. This will help the government track the effectiveness of their policies, which is in line with the national Shared Prosperity Vision of becoming a high-income nation by year 2030. The third limitation is in term of our sampling, where we focused on households located in five major regions (Central, Southern, Northern, East Coast and East Malaysia) in Malaysia. While our findings focus on Malaysian households, future researchers may consider adapting the FWBI in other contexts across the world.

#### Note

1. MYR100 = USD24 (exchange rate as in November 2018)

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