ISSN: 2772 128X (Online)
ISSN: 2792 1492 (Print)
SLJESIM
VOLUME 1 ISSUE 1
June 2022
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www.sab.ac.lk/sljesim

AN EMPIRICAL ANALYSIS TO IDENTIFY THE MAJOR FACTORS AFFECTED THE HOUSEHOLD INDEBTEDNESS IN SRI LANKA (WITH SPECIAL REFERENCE TO KANDY DISTRICT)

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Received: *04 October, 2021* ***Revised:*** *22 March, 2022* ***Accepted:*** *18 May, 2022*

How to Cite this Article: *Yaparatne, Y.M.N.D.K., & Senathissa, W.A. (2021). An empirical analysis to identify the major factors affected the household indebtedness in Sri Lanka. Sri Lanka Journal of Economics, Statistics, and Information Management,* 1(1), 55-68

Abstract

Households play a vital role in an economy. Over the last few years, the overall household debt portfolio in Sri Lanka has shown a sharp increase. Therefore, this study attempts to investigate the major factors associated with household indebtedness in Sri Lanka with special reference to Kandy District since it drastically affects the living condition of rural community in Sri Lanka. For this purpose, primary data was collected through structured questionnaires. All households who have obtained consumer loans in Kandy district were considered as the population while based on the quota-sampling technique, 200 households among them were selected as the sample. A quota was given for each divisional secretariat division in Kandy District and simple random sampling method was used to select the number of households from each division as a sample. The multiple regression analysis was used to assess the major determinants that associated with household indebtedness in Sri Lanka. The results show that the most influential factor that affects the household indebtedness was an intention to maintain the social status by borrowing durable and luxurious goods. Furthermore, the study found that low-income families, financially illiterate, unemployed households and women-oriented households are living at high burden of debt. Therefore, based on the empirical findings of this study, it could be recommended to formulate the policies to empower the poor to rely on their own income and make them aware of the available financial facilities with the help of community development programs.

Keywords*:* Household Indebtedness, Low Income Families, Unemployed Households, Women Oriented Households

INTRODUCTION

Households play a vital role in an economy since they being a prominent economic agent by demanding the good and services produced in a country. In another aspect, they are the major source of saving generated entity of a country. In addition to that, they are the major source of factor of production where they provide physical and mental effort to produce certain goods or services and earn some return as the major source of their income. Since the disparity is inevitable with the unequal distribution of national income and accessing to the formal financial facilities, most of the rural communities are grappling with the problem of inadequate income to cover up their day to day expense and which force them to rely on borrowing. Meanwhile situation is going to be further sad, when those parties have to face some constraints on borrowing and which resulted to find any financial assistance even at high rate of interest, which make them towards high burden of debt. Therefore, by paying attention on this particular issue underline with rural community, this study refers to find the factors that have been affected the household indebtedness by specially focusing the Kandy District in Sri Lanka.

By the passing of time, the level of household indebtedness has shown a significant increase in both developed and developing countries (Turinetti & Zhuang, 2011a). Considering the developed countries, the major source of household indebtedness in the United States of America (USA) was identified as a significant drop in rate of household savings while issue of bankruptcy was the major determinants of household indebtedness in the United Kingdom and Germany (Jappelli et al., 2013). When it moves to the emerging Asian countries like Philippines, Malaysia, Indonesia, Thailand and Singapore, household debt were also shown an increasing trend (Catherine et al., 2016a). The same results were reported in Sri Lankan context, where the overall Sri Lanka's household debt portfolio has shown a sharp increase over the past few years (Wijayathunga et al., 2019a). According to the results of this study, failure of adopting neo-liberal economic model pushes multilateral and bilateral creditors towards public debt and focuses on household indebtedness as a means of repaying their low incomes were identified as a major source of household indebtedness with the liberalization of Sri Lanka. Another obvious fact that reported in Sri Lanka is that though the microfinance is identified as one of the fastest growing businesses in Sri Lanka, which is directly related to household indebtedness level in recent past, though it was a success at its early stages. Since there is an increasing trend of defaulting loans which borrow under the microfinance programs, other members are also used to default by pointing out the historical event, how others follow the same things by defaulting loan in the past and which has led to increase the household indebtedness of the members attached in particular group of microfinance.

When it pays a special attention to the rural community in Sri Lanka, household debt has been recognized as one of the most infamous obstacles to rural development. Lower living standards of Sri Lankan households could be seen just due to the rapid rise in debt burden over the last a few years. According to the report published by

Census and Economic Information Center (CEIC, 2019) the aggregate household debt in Sri Lanka by December in 2019 was US $ 7.8 billion and it has increased over the few years. The figures mentioned in this report reflects that low interest rate enabled many people to overcome their financial difficulties in the short run, however at the same time which has affected a sharp increase of individual's household indebtedness. Low interest rate under easy monetary policy in a country has encouraged individuals to access to personal loans in a wider context while it has directly affected to increase individual's household indebtedness in Sri Lanka. In an emergency situations like, curfews and pandemic situation have been severely affected on working peoples, particularly the casual and daily paid workers since them are out of works and leads them in to long term indebtedness. According to the Annual Report published by Central Bank of Sri Lanka (CBSL, 2019) 73 per cent of households in estate sector are being suffered due to the issue of debt while 61.1 per cent of households are representing rural sector. Along with this background of household indebtedness, it could be identified as a multidimensional factor affected by several factors from global context to country context. Since it has been identified as an infamous gloomy picture faced by some of the people of a country, this study attempted to identify major factors affected household indebtedness in Sri Lanka with special reference to the Kandy District.

LITRATURE REVIEW

This section refers to review the prior knowledge and sharing experiences of various researchers to examine the same research question associated with household indebtedness along with theoretical, methodological and empirical literatures with the expectation of identifying the research gap and preparing the conceptual framework to assess the research question in systematic way.

In paying attention toward to theoretical literatures, the four most generally accepted theories have focused to explain the scope of household debt. The permanent income hypothesis (Friedman, 1957), the intertemporal choice model (Fisher, 1930), the life-cycle hypothesis (Modigliyani, 1966), the theory of credit rationing and behavioral finance theory (Nomatye & Phiri, 2017) are some of them. According to the permanent income hypothesis, individuals make decision on consumption by looking at their permanent income rather than the changes of their transitory income. According to the intertemporal choice model, Fisher explained that consumption decision of individual depends on their life time resources, then Life cycle hypothesis explains that how the saving is important at the old aged after retirement of individuals. All those theories explain somewhat about, how consumers are smoothing their consumption during their lifetime where variation of income merged by the savings and borrowings. According to Laibson (1997), individuals decision of consumption is affected by pull of instant gratification where rational behavior is problematic and they are irrational with the expanding due to psychological behavior of instant gratification where they are mainly focusing on current consumption based on their available income, This irrational behavior of consumption may leads them in to indebtedness frequently. Meanwhile, Behavioral financial theory has showed that people with low financial literacy do not have self-control (“hyperbolic discount” behavior). Therefore, they constantly underestimate their debt burden.

When it moves to the empirical literature on households indebtedness, Debelle (2004a) found that, unemployment is one of the major factors affect indebtedness because it is very difficult to pay off mortgages and loans without having proper income. Hoang & Meng (2015a) revealed similar findings that unemployment is a key factor in explaining Australia's rising household indebtedness. According to the results reveled by the Dynan et al. (2007a) it is evident that how the household indebtedness is increased with the level of the increase of education. This is mostly the result of youth expenses on education was increased, as they are more educated. In contrast to this idea, Brown & Graf (2012) revealed that the use of debt has been decreased with the level of education. He further explained that, the increase in the quality of education has contributed to the decrease in the value of the overall debt-to-income ratio. However, the study suggested that in addition to the level of education, other factors which effect on debt should also be considered in order to decrease the households' debt levels.

According to Crawford & Faruqui (2012a), households’ income has been identified as a major factor influenced the household indebtedness. In many cases, the household sector responds more sensitively to changes in household income. According to them, indebtedness were affected by the factors such as unexpected changes of family structure, unexpected spending on medical treatments, rising divorce, the death of a family member, or the addition of a new member to the family. The relationship in between poverty and household indebtedness is also one of the important aspects discussed in the literature. Girouard et al. (2007a) revealed that low-income households are more likely to become debtors because they are unable to maintain their debt services. Indebtedness is often esteemed relative to the dynamics of the debt-to-income ratio where they believed that low-income households may have a higher debt-to-income ratio. Meanwhile, Thaicharoen et al. (2004) investigated the relationship between debt, gross domestic product, housing prices and the debt ratio and their finding revealed that, indebtedness is determined by low interest rates, borrowing limits, and the influence of demographic factors.

Mishkin (1976a) examined the relationship between durable commodity consumption and household debt and pointed out that that consumer consumption has a positive relationship with household debt. Further, it shows that households access to loans to maintain their social status. The similar impacts have also shown by McCarthy (1997). According to him, housing debt increases as the cost of durable goods decreases.

A research by Chucherd (2006) in Thailand found that there is an interrelationship between durable and non-durable goods and household debt. Moreover, study conducted by Barba et al. (2009) confirmed that U.S. households frequently access loans to maintain their social class resulting to them being indebtedness in long run. Findings revealed by the Rani et al. (2017) explain the relationship between debts to asset ratio. According to them when the debt to asset ratio of a household is more than one, they need more of assets payback the debt. If that value is equal to one, households have to pay the same amount of debt as assets. When this rate goes down, families are less likely to be bankrupt. The impact of the demographic factors on household indebtedness are important to discuss where, Sullivan et al. (1995a), revealed that family breakdown and family divorce are directly linked to the household loan crisis. Heads of households suffer from stress and depression due to inability to repay loans. This has become a major factor that leads to misunderstanding the family. As a result, family breakdown and divorce are common. Further, Catherine et al. (2016b) revealed that lack of self-confidence, poor communication skills and lack of friendship with neighbors could be studied in debt-ridden residents.

Nizar (2015a) based on the report published by the Malaysian Department of Liquidity pointed out that; about 60 Malaysians go bankrupt every day. Most of them are young people and all of them were between the 18 and 35 years old. According to the Malaysian Insolvency Department (2016), most bankruptcy victims in Malaysia are between the ages of 25 and 44 years. Many young people have accessed to loans to buy a car after completing their degree without considering their ability to afford it. Because of these circumstances, they will go bankrupt at a young age. The age of households can be used to determine the level of debt of the households and household indebtedness tends to increase during youth and it gradually declines with the ageing (Yilmazer & Devaney, 2005). Household size plays an important role in determining the amount of household indebtedness. Where, Jianakoplos & Bernasek (1998a) believed that if a family has a large number of children and non-working adults, the amount of debt that the family will have to pay is relatively high. The study further said that the indebtedness of a household is determined by the number of economically active household members, the number of dependent children and the number of unemployed in the family. Another factor influencing the availability of credit is the gender of the household heads. Keese (2010a) stated that after controlling the debt service ratio, women are more likely than men to be financially stable. However, contrastive to this idea, Lusardi & Mitchell (2017a) show that if the borrower in the household is a woman, she will inevitably in debt. Meanwhile, based on the survey of household debt in the USA, Dunn & Mirzaie (2012) said that no relationship could be recorded in between gender household’s debt.

Based on this prior knowledge of previous studies, ten independent variables were identified to assess the household indebtedness (**HI**) and based on them, following hypotheses were developed.

H_1	:	Intention of maintaining social status has positively affected HI
H_2	:	Borrowing and saving status positively impacts on HI.
H_3	:	The sources of household income as major and minor, has negatively affected HI
H_4	:	Availability and accessibility to the financial / non-financial sources positively affect HI

H_5	:	Employment status household's heads has negatively affected HI
H_6	:	Age of household's heads negatively affects HI
H_7	:	Gender of household's head has positively affected HI
H_8	:	Household size has positively affected HI
H_9	:	The level of educational of household heads has negatively correlated with HI
H_{10}	:	Marital status of the household head has positively affected HI

Along with the review of literature, it shows that household indebtedness is the multidimensional issue affected by many factors such as demographic, geographical and particularly socioeconomic factors. Though there are many attempts made by various researchers to identify the factors effect on poverty, which has not been directly addressed the issues of household indebtedness in rural community in Sri Lanka. Therefore, this study addressed this research gap and conducted this research to identify the major factors, which have affected household indebtedness in Sri Lanka.

METHODS

The selected population of this study was all households in the Kandy District who obtained a consumption loan in 2018 from the Bank of Ceylon (BOC), Head Office in Kandy. Based on quota sampling technique, 20 Divisional Secretariat was selected and among them 200 households were selected based on simple random sampling method to collect primary data. For that purpose, semi structured questionnaire survey and direct personal interviews methods were used. This study is primarily based on *household indebtedness* and it was used as the dependent variable of this study. Based on the literature survey, it was able to identify socio-economic factors such as level of employment household's heads (Hoang & Meng , 2015b), status of borrowings and savings of the household's heads (Dynan et al., 2007b), households major/ minor income (Girouard et al., 2007b), intention to maintain social status (Mishkin, 1976b), accessibility to the financial and non-financial assets (Nuugulu et al., 2019a), as well as demographic factors affecting household indebtedness, such as household heads' level of education (Dynan et al., 2007c), marital status (Sullivan et al., 1995b), household heads' age (Nizar, 2015b), household size (Jianakoplos & Bernasek, 1998b) and household heads' gender (Lusardi & Mitchell, 2017b) can be identified as independent variables. Align with the selected variables with the help of literature survey, multiple regression model was developed and mentioned in the next section.

Method of data analysis

Based on the primary data collected from the study area, the researcher employed the OLS multiple regression model to identify the impact of ten independent variables on the dependent variable since author intended to find both the direction and magnitudes made by the independent variables on the changes of dependent variable in the study. The general form of the multiple regression model incorporating with selected variables can be mentioned as follows;

$$\hat{Y} = \boldsymbol{\beta_0} \pm \boldsymbol{\beta_1 X_1} \pm \boldsymbol{\beta_2 X_2} \pm \boldsymbol{\beta_3 X_3} \pm \boldsymbol{\beta_4 X_4} \pm \boldsymbol{\beta_5 X_5} \pm \boldsymbol{\beta_6 X_6} \pm \boldsymbol{\beta_7 X_7} \pm \boldsymbol{\beta_8 X_8} \pm \boldsymbol{\beta_9 X_9} \pm \boldsymbol{\beta_{10} X_{10}} + \boldsymbol{\varepsilon_i}$$

Where, $\hat{Y}$ is the dependent variable that states the Household indebtedness is measured by *Total amount of loans per month* divided by *Monthly income*. Overall, ten independent variables have been exhibited in the model where from $\boldsymbol{\beta}_0$, to $\boldsymbol{\beta}_{10}$ represents the regression coefficients and explanation pertaining to them are mentioned as follows;

$\boldsymbol{\beta_1 X_1}$ -intention of maintaining the social status by purchasing durable/luxurious goods
$\boldsymbol{\beta_2 X_2}$ - status of borrowing and savings
$\boldsymbol{\beta_3 X_3}$ - income of the head of household
$\boldsymbol{\beta_4 X_4}$ - availability and accessibility to the financial and non-financial sources
$\boldsymbol{\beta_5 X_5}$ - employment status of household head
$\boldsymbol{\beta_6 X_6}$ - age of household head
$\boldsymbol{\beta_7 X_7}$ - gender of household head
$\boldsymbol{\beta_8 X_8}$ - household size
$\boldsymbol{\beta_9 X_9}$ - level of education of the household head
$\boldsymbol{\beta_{10} X_{10}}$ - marital Status of the household heads
$\boldsymbol{\varepsilon}_i$ random error term

Categorical variables represent types of data which may be divided into groups. Here categorical variables can be identified as age, level of education, household size, income and marital status of the household head. Dichotomous variables are nominal variables, which have only two categories or levels. Here gender of household heads' categorizes as "male" or "female". However the intention was assessed pertaining to the each independent variable through seven point Likert scales since the continuous features of the data is an essential condition for employing the multiple regression analysis.

RESULTS & DISCUSSION

Descriptive Statistics Analysis

At the first stage of data analysis, the major attributes of sample are explained align with the important concept in descriptive analysis like mean and standard deviation of each variable.

Table 2: Descriptive Analysis

Variables	N	Mean	Std. Deviation
Employment status	200	5.79	1.08
Borrowing saving status	200	6.01	0.77
Financial nonfinancial sources	200	6.21	0.87
Marital status	200	5.71	0.90
Gender	200	5.98	0.69
Household size	200	6.30	0.64
Educational level	200	5.60	0.66
Income	200	6.20	0.54
Age	200	6.25	0.60
Social status	200	6.10	0.59

Source: Survey data (2021)

Multiple Linear Regression analysis

Before explaining the regression results, it is important having a comprehensive idea about model accuracy. According to Field (2009a), R^2 is a statistical measure of goodness of fitness that describes how much variation of a dependent variable is explained by the independent variables in a regression model. The following (table 3) explains the variance of the dependent variable in the model under consideration explained by the coefficient determination (R^2).

Table 3: Model summary of multiple regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimates
1	0.882	0.777	0.766	0.395

Source: Survey data (2020)

In the table 3, R squared (R^2) value is 0.77 and it emphasizes that 77.7% of the variation of household indebtedness is explained by the selected explanatory variables in the model while 22.3% of variance of household indebtedness is explained by other factors which have not been include in the model. Field (2009b) explained that, some researchers use the Adjusted R^2 value rather than just R^2, because Adjusted R^2 penalizes for adding variables which do not improve the existing model. Moreover, in order to build a linear regression on multiple variables, it is always suggested to use Adjusted R^2 to judge goodness of fitness of the model. The adjusted R^2 value of the study is 76.6% and the difference is 1.1% (Adjusted R^2- R^2). This difference means if the model was derived from the population rather than a sample it would account for approximately 1.1% less variance in the outcome of the model.

Results revealed by the regression analysis shows that only 5 variables, out of the 10 used based on this study, were significant to explain the household indebtedness in Sri Lanka with special reference to the Kandy District. The factors such as intention to maintain social status and gender of the household head have a positive impact on household debt, while the other three variables, like income, level of education and employment status of the household heads' have a negatively influenced the household indebtedness. According to the coefficient table (Table 4), the most influential factor effects on household debt in the study area was identified as the intention to maintain the social status by household despites their level of income.

Table 4: Regression output of multiple regression analysis

Model	Unstandardized Coefficients		Sig.
	B	Std. Error	
(Constant)	5.643	.028	.000
Intention to maintain social status (SOC)	0.704	.057	.000
Borrowing saving status (BSA)	-.25	.091	.374
Availability to the financial / non-financial sources (FNF)	0.12	.029	.673
Households heads' marital status (MS)	-.21	.041	.452
Household heads gender (HG)	0.68	.028	.016
Household size (HS)	0.38	.016	.181
Household heads educational level (EDU)	-.42	.079	.001
Household major / minor income (INCO)	-.57	.072	.042
Household heads age (HA)	0.16	.071	.573
Household heads employment status	-056	.078	.046
Dependent Variable: Household indebtedness			

Source: Survey data (2020)

Base on the above coefficient table (Table 4) the final model of regression analysis could be mention as follow;

$$\hat{\mathbf{Y}} = 5.643 - 0.56\ \boldsymbol{EMP} + 0.68\ \boldsymbol{HG} - 0.42\ \boldsymbol{EDU} - 0.57\ \boldsymbol{INCO} + 0.704\ \boldsymbol{SOC}$$

According the results revealed by the regression, intention to maintain high social status (SOC) by households was the highest influential factor and which was positively affected the household indebtedness. According to the regression result which shows that household with strong intention to maintain their social statues (with high expenditure on luxurious or consumption substances) which affects the increase of the household indebtedness by 70 per cent when remaining all other things being constant. Gender of the household heads' (HG) was identified as the next most influential factors on changing household indebtedness, while any increase of HG, it has affected to increase household indebtedness by 68 per cent when remain in all other thing being constant, while it totally tally with the Lusardi et al., (2017) findings.

The current study revealed that the income sources of the household heads' (INCO) may have a significant impact and negatively affected on household indebtedness. According to the regression result, it shows that households who have an adequate income sources either in terms of major and minor income our results shows that it affects to reduce the indebtedness by 58 per cent. This negative relationship between household indebtedness and income is also proved by the findings of Crawford et al. (2012b). Obviously, the finding of the current study shows the positive relationship between education and household indebtedness. This is basically resulting that households need more money when some member of the household educate more, then head of the household is directly enforced towards to borrowing. Looking at the households in the Kandy district, they have different levels of education. Contrastively, the findings of Brown et al. (2005b) show that the level of education is negatively correlated with household indebtedness. Further, it shows that, education level of household heads has adverse effects on household indebtedness. According to the regression result which shows that household with a professional skill or degree which affects the decrease of the household indebtedness by 42 per cent, means that the level of education of household head may have a significant effect on household indebtedness. Finally, it shows that employment status of heads of the household inversely affected to household indebtedness. That means, households' employment status gradually increases, and they are less likely to become debtors. People who do not have a job but are looking for a job, a household who is not satisfied with the quality of their employment, retirees are more likely to become indebted than the households who are employed full time. According to the regression result which shows that households with a satisfied job leads to decrease the household indebtedness by 56 per cent while all other things are being constant which was similar to the result of Debelle (2004b) and Nieto (2007a) findings.

CONCLUSION

This study attempted to identify the major factors effect on household indebtedness since it has been a heated debated in last a few years in many countries including Sri Lanka with special reference to Kandy district. For this purpose 200 families were selected as a sample from Kandy district since it reflects the general picture of household indebtedness in Sri Lanka. Results revealed by the regression analysis shows that five factors highly affected the household indebtedness in Sri Lanka where the individual intention to maintain their social status, level of education, income, employment statues and gender of the household were highlighted. In a theoretical aspect, our major finding is solely tally with the explanation of demonstration effect disused in relative income hypothesis (Ducenburry, 1949). Further, our finding shows that the level of education has negatively correlated with the household indebtedness. The reason is that increasing the level of education increases household productivity and thereby it significantly increases household income. There is an inverse relationship between household debt and income of household heads and it was similar to the Turinetti et al. (2011). The current study has identified that the increase in the unemployment rate has been a major factor in the growth of household debt where it shows that household debt and the unemployment rate are positively correlated ant it is similar to the finding of Debelle (2004c) that employment status has a significant negative effect on household debt. Another significant factor influencing the debt is the gender of the household heads, which is also familiar with the Keese (2010b) findings which explain that women are more financially stable than men. Therefore, based on these empirical finding, it could be recommend to implement the community awareness programs and saving encourage programs to adopt the most vulnerable parties with high debt into self-employment activities or income generation activities.

RECOMMENDATIONS

Households should be aware of their rising cost of living and minimize the use of credit facilities as wage substitutes to finance the rising consumption that is positively linked to household indebtedness. That means it needs to develop a strong policy of protecting households rather than relying on credit to meet consumer needs. This was supported by the results obtained from the reactionary analysis. As a result, the intent to maintain social status by consuming luxury and durable goods has a positive impact on domestic indebtedness. Since employment is closely linked to household indebtedness, policies that promote employment or entrepreneurial opportunities are essential to improving the earning potential of households. Results obtained from the data analysis identified that full-time employees with secure incomes have less likely to obtain loans compared to the unemployed. It is needed to have a consumer credit market and to educate households on how to better manage services without incurring heavy debt. Policies should be introduced to improve the consumer credit market and households should be made aware of the better management of the services without incurring heavy debt burden. Considering household's demographic characteristics results, the highest household response is between the ages of 20-35 and 36-50, which is 79% of the total sample. Therefore, these age groups represent the younger and middle generation and are directly affected the household indebtedness. Lack of experience makes young households more likely to resort to debt. Also, many young people get a loan to buy a car after graduation without even thinking about the possibility of repaying it. Because of these circumstances, they will become debtors at an early age. Therefore, households need to be more aware of the concept of debt and the importance of maintaining a balanced lifestyle. As a result, households in the Kandy District can reduce their risk of falling into the household debt trap.

Limitations and implications to future researches

This study assessed the factors effect on household indebtedness in Sri Lanka based on the limited selected factors. Since the validity of finding of this study solely depends on its study area (Kandy district), sometimes its validity on national and global context may also be differed due to the factors affected by geographical special, cultural impacts, policy influences financial exclusion and particularly psychological aspects on household indebtedness. Therefore, future study can be conducted by incorporating those factors in wider context with increasing sample size making the findings more realistic.

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