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Impact of Financial Inclusiveness on Household Indebtedness: Special Reference to Jaffna and Trincomalee Districts

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ABSTRACT

Purpose: In recent years, policymakers and researchers have been increasingly interested in understanding household indebtedness. This study used survey data from Trincomalee and Jaffna districts to explore how financial inclusiveness affects household indebtedness.

Design/Methodology/Approach: Likewise, this investigation employed data on penetration, barriers, and usage of financial services to construct a comprehensive index, amalgamating scores from each aspect to gauge overall financial inclusion. 200 responses were obtained through convenience from households in Trincomalee and Jaffna districts.

Findings: The researcher conducted regression analysis and found a significant positive relationship between financial inclusiveness and the dependency ratio, a negative marginal relationship with debt performance, and no relationship with the consumption yield balance. The study also revealed that financial inclusion significantly impacts household indebtedness and identified three influencing dimensions. Moreover, they observed that financial literacy has dual effects, with financially literate individuals displaying better market behavior, while financially illiterate individuals accumulate more debt due to income shocks. The study aims to fill the literature gap and contribute to understanding the financial landscape of a developing nation like Sri Lanka.

Originality: The study, which focuses on the Sri Lankan districts of Trincomalee and Jaffna, offers context-specific insights into the relationship between financial inclusion and family debt in a developing country.

KEYWORDS

Household Intendedness, Financial Inclusiveness, Organization for Economic Cooperation and Development

JEL CLASSIFICATION

D03, D12, D14, G20, I30, O12

I. Introduction

Indebtedness denotes the level of financial obligations and liabilities that households accumulate over time, often through borrowing from various sources such as banks, microfinance institutions, and informal lenders (Subbarao, 2009). In Sri Lanka, credit card access has been increasing steadily, accounting for approximately 12.7% of total non-performing loans as of September 2021. Irresponsible credit card usage can lead to a challenging debt burden. High levels of household indebtedness can harm individuals and families, leading to financial stress, limited access to essential goods and services, and even bankruptcy (Vincent & Cull, 2011).

Financial inclusiveness, characterized by the accessibility and availability of financial services to all population segments, has gained significant attention as a catalyst for economic growth and poverty reduction (Richard, 2018; Demirgüç-Kunt et al., 2018). Financial inclusiveness can empower marginalized communities and foster socioeconomic development by ensuring that individuals and households can access affordable and appropriate financial products and services (Muthukrishna & Cooray, 2020). One crucial aspect of financial inclusiveness is its impact on household indebtedness, which refers to the accumulation of financial obligations and liabilities by households. Understanding the relationship between FI and HI is essential

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for policymakers and practitioners promoting sustainable and inclusive economic development.

However, the Central Bank of Sri Lanka (CBSL) launched the Financial Inclusion (FI) strategy in 2016, aiming to enhance access to financial services for underserved populations and foster inclusive economic growth (CBSL, 2016). Examining the impact on household indebtedness, particularly in regions like Jaffna and Trincomalee, can provide insights into the effectiveness of the CBSL's approach and the relationship between financial inclusiveness and household debt.

While efforts to promote financial inclusiveness have expanded access to formal financial services in these districts, examining whether increased access has resulted in higher household indebtedness remains crucial (Demirgüç-Kunt & Singer, 2017). Additionally, the study aims to identify the factors contributing to household indebtedness in these districts and assess the effectiveness of the CBSL's FI strategy in addressing this issue. Through surveys, interviews, and data analysis, we aim to understand the determinants of household indebtedness, identify the factors contributing to or mitigating financial vulnerability, and evaluate the effectiveness of existing financial inclusion initiatives in these districts. For this inquiry, the scholar has created a test research question.

To what extent does financial inclusiveness affect financial household indebtedness?

The findings of this research will not only shed light on the specific context of the Jaffna and Trincomalee districts but also have broader implications for financial inclusiveness policies and practices in other regions and countries. Financial institutions can also use this information to design personalized financial products that encourage prudent borrowing and reduce excessive debt. These insights will inform evidence-based policy recommendations to enhance the effectiveness of financial inclusiveness initiatives, promote responsible borrowing practices, and contribute to the sustainable economic development of Jaffna and Trincomalee districts.

This knowledge gap hampers efforts to reduce over-indebtedness and encourage responsible borrowing practices by impeding the development of focused interventions and customized financial products to address the unique needs of diverse populations (Ajzerle et al., 2013). Findings from this study will help banks maintain their credit consistency through household debt awareness. It will also help the Sri Lankan government make further improvements to enhance the FI strategy programs that can literate every citizen. This research explores the complex relationship between household debt and financial inclusivity to close this gap, particularly determining the variables influencing debt levels across various demographic groups.

The following sections will delve into the literature surrounding financial inclusiveness, household indebtedness, and the key concepts that inform this study. We will also outline the research methodology, present the data collection process, and discuss this research's expected outcomes and limitations.

II. Literature Review and Hypotheses

Indebted individuals go through three stages when facing difficulties. Firstly, they try to preserve their assets but eventually experience asset depletion, leading to potential destitution (Corbett, 1988). During the first stage, people resort to measures like reducing meals, delaying healthcare, borrowing from different sources, and involving non-working household members (Young, 1992). In the second stage, households sell assets, and some members may turn to criminal activities for money. If all efforts fail, households may migrate to urban areas for income. This migration, influenced by desperation and stress caused by indebtedness, can have long-term

consequences like family breakups. A higher probability of financial distress and the subsequent potential for the threat of bankruptcy can be linked to increased household indebtedness (Vijayakumaran, 2019). Overall, indebtedness has detrimental effects on the well-being of individuals, families, and communities in the short and long term (De Mel et al., 2007).

Despite an overall 18% improvement in financial inclusion from 2011 to 2017, recent findings from the 2017 Global Findex Database show persistent gender and locational disparities worldwide (OECD, 2021). When financial services are readily available, previously excluded or underserved individuals may have better opportunities to borrow and accumulate debt. The increased access to credit can lead to a rise in household indebtedness. Additionally, financial inclusion can contribute to higher borrowing levels and indebtedness among households. Financial inclusion theory suggests that expanding access to formal financial services can contribute to this trend (Beck et al., 2007). The Permanent Income Theory highlights that households with greater access to financial services have more borrowing options, which can influence their behavior in accumulating debt (Friedman, 1957).

The Debt Overhang theory warns that excessive indebtedness, despite increased financial inclusion, can adversely affect household well-being and overall economic stability (Myers, 1977). The Life Cycle Theory suggests that financial inclusion facilitates borrowing among households at different stages of life, potentially leading to higher levels of indebtedness (Modigliani & Brumberg, 1954). Studies in Sri Lanka indicate that the greater availability of formal financial services positively impacts household indebtedness (Abeyratne & Herath, 2018). It gives households a more comprehensive range of credit sources and reduces their reliance on informal borrowing.

The CBSL plan aimed to remove obstacles to financial inclusion and guarantee that all demographic groups could access inexpensive, high-quality financial goods and services. To ensure that FI encourages responsible borrowing and reduces the hazards related to high family debt levels, it is crucial to implement accountable lending practices, financial literacy initiatives, and consumer protection measures. Nevertheless, the positive effects of financial inclusion on household indebtedness should be accompanied by efforts to enhance financial literacy (Lusardi & Mitchell, 2014). Financial literacy empowers individuals to navigate the financial system, make informed borrowing decisions, and effectively manage debt (Dinh, 2018). While financial literacy and inclusiveness can support responsible borrowing, it is important to recognize that they do not guarantee prudent financial behavior.

Financial inclusiveness is a multidimensional concept encompassing key measurement dimensions, including usage, access, and barriers indicators, based on the frameworks developed by the Organization for Economic Co-operation and Development and the World Bank Group. Usage indicators focus on how individuals and households actively use formal financial services. This indicator captures the percentage of individuals or families with a bank account or other formal financial account. Integrating the aggregate score for FI barriers alongside FI usage and FI access provides a comprehensive understanding of financial inclusion, addressing both facilitating factors and obstacles to accessing financial services (Demirgüç-Kunt et al., 2015, 2018; Koomson & Ibrahim, 2018). This measure examines the proportion of individuals or households that have accessed formal credit products and the frequency and amount of their credit usage (Demirgüç-Kunt et al., 2015).

The availability measure assesses the availability and accessibility of credit products, such as loans and mortgages, to different segments of the population (Honohan, 2008). Barriers that hinder individuals and households from accessing

and effectively using financial services are inversely related to FI. This indicator assesses individuals' knowledge and understanding of economic concepts, products, and services and the cost of financial services, including transaction fees, interest rates, and account maintenance charges, to determine if they are affordable and accessible to all segments of society (Morduch & Karlan, 2009).

Household indebtedness (HI) can be assessed using various metrics, with one method being the evaluation of debt performance, which acts as an inverse measure of HI. This entails calculating the ratio of monthly income minus debt to the minimum required income or poverty line. A debt performance ratio below 1 typically indicates household indebtedness (D'Alessio., 2013; Chotewattanakul, 2019). An increase in the DP ratio beyond 1 implies a decrease in household indebtedness alongside a decline in FI. A DP ratio with a negative value indicates household over-indebtedness. Also, in the UK context, Gathergood (2011) proposed that one-month and three-month delinquency on debt could serve as further indicators for objectively identifying over-indebtedness.

Dependency ratios provide a direct measure of HI. The youth dependency ratio compares the number of individuals aged 0-14 with the working-age population (15-64), giving insights into the potential financial burden on households with dependent children (OECD, 2015). Similarly, the dependency ratio considers elderly individuals aged 65 and above who may burden households financially. The consumption-to-yield ratio is also directly related to HI. A higher consumption-to-income ratio suggests higher consumption (necessary and discretionary spending) levels relative to income, indicating a potential reliance on debt to sustain consumption.

Hypotheses

According to Flemming (1973), credit rationing in financial markets can influence borrowers' debt service payments. Higher levels of indebtedness among individuals with access to better investment options through financial intermediaries can be a substantial factor in financial inclusion (FI). However, increased credit risk resulting from extensive usage of FI can hurt individual happiness.

Based on the arguments above, the author proposed the following hypotheses:

As FI increases, there might be challenges in effectively managing debt. This could be due to increased access to credit leading to higher borrowing levels, inadequate financial literacy, or a lack of understanding of debt management practices. Households with the most unsound financial standing have the lowest debt performance and insufficient income to pay the minimum amount needed for living expenses (D'Alessio & Iezzi, 2013). If FI facilitates more accessible access to credit, households may borrow more, resulting in lower DP ratios (>1), indicating increased indebtedness. Conversely, a DP ratio surpassing 1 implies reduced household indebtedness, potentially accompanied by a decline in FI. Furthermore, a negative DP ratio indicates severe over-indebtedness, which increased borrowing facilitated by FI could exacerbate (Georgarakos et al., 2010; Chotewattanakul et al., 2019).

H1: Financial inclusion (FI) is significantly and negatively associated with debt performance.

A higher dependency ratio, typically ranging from 0.4 to 0.9, is anticipated to bolster financial inclusion (FI) because a more significant proportion of the population consists of either young individuals or those in retirement (Xiao & Yao, 2014). Consequently, a higher percentage of dependents in the population may raise demand for financial credit services and household indebtedness as more dependents turn to borrowing to meet their needs (Keese, 2009). It is worth noting that a dependency ratio equal to or exceeding 1 suggests household over-indebtedness.

H2: FI is significantly and positively associated with the dependency ratio.

Indebted households needing more substantial savings frequently rely heavily on financial services. A higher consumption yield (CY) ratio, closer to 1, signifies lower saving capacity, implying increased spending compared to income and potentially heightened dependence on credit for consumption needs. If this ratio exceeds 1, households are more likely to be over-indebted (Betti et al., 2007; Chotewattanakul et al., 2018).

H3: FI is significantly and positively associated with the CY balance (consumption-to-income ratio).

III. Model Specification and Estimation Methodology

Model Specification

The regression model allows you to estimate the impact of financial inclusiveness variables on household indebtedness while controlling for other factors that may influence HI.

$$HI = \beta 0 + \beta 1 * Access + \beta 2 * Usage + \beta 3 * Barriers + \beta 4 * Age + \beta 5 * Sex + \beta 6 * Financial\ Literacy + \varepsilon$$

Where:

- HI represents the dependent variable, which measures household indebtedness (such as debt performance, c-y balance, or dependency ratio).
- Access, Usage, and Barriers represent the independent variables related to financial inclusiveness, which capture different dimensions of financial access, usage, and barriers.
- Age, Sex, and Financial Literacy represent the control variables, which are demographic factors that may influence household indebtedness.
- β0 is the intercept term.
- β1, β2, β3, β4, β5, and β6 are the regression coefficients that represent the relationships between the independent variables and the dependent variable, as well as the control variables and the dependent variable.
- ε represents the error term, which captures the unexplained variation in the dependent variable.

Definition of Variables

Household Indebtedness

Debt performance measures how monthly income minus debt compares to the minimum income needed to meet the poverty line. Debt service refers to repaying all financial obligations. A larger difference between post-debt repayment income and the income required for a standard of living indicates better financial management. The poverty line is used as a benchmark, calculated based on family size, to determine the minimum income necessary for survival. The expenditure-to-income ratio is used to assess how well monthly income covers expenses. Higher ratios of income and spending are linked to a higher likelihood of heavy indebtedness and poorer credit performance. The relationship between the dependency ratio and indebtedness is positive, indicating that having unemployed family members increases financial stress, leading to higher debt levels and difficulties in debt repayment.

Financial Inclusiveness

Using financial market tools, applicants who cite holding bank loans or possessing a credit card are considered indebted to formal financial companies. The reach of formal financial services and products to individuals or households: ATMs, over the counter in financial institutions, Bank Commentator/Bank Agent. Barriers may include low financial literacy, a lack of trust in financial institutions, cultural or social norms, or limited income and financial resources.

Control Variable

The age of the adult individual or household is measured in years. It includes households

with young household heads born after 1989. Additionally, the study considers the variables of gender, financial knowledge score, and self-confidence to analyze their potential influence on the research outcomes.

Table 1. Definitions of Variables

Variables	Measurement	Related literature
Dependent Variables		
Debt performance	Monthly Income after debt service payment/ poverty line (minimum subsistence Income level) [Rs. 5908.00*H.Size]	Chotewattanakul et al., (2018)
C-Y balance	Monthly consumption Expenditure to Income ratio	Chotewattanakul et al., (2018)
Dependency Ratio	Number of household members with no income/ total number of household members ratio	Chotewattanakul et al., (2018)
FI Variables		
Usages	Likert Scale [Not at all, Once in a while, Sometimes, Fairly Often, Frequently but not consistently] [Holds Savings, Investments, Retirement, Insurance, Payment, Credit Products. (Financial Devices)]	OECD (2018) Global Findex Survey
Access/ Penetration	Likert Scale [Not at all, Once in a while, Sometimes, Fairly Often, Frequently but not always] [ATMs, Agents, Direct access]	OECD (2018) Global Findex Survey
Barriers	Likert Scale [Not at all, once in a while, Sometimes, Fairly Often, Frequently but not always] [travel, a lack of the needed credentials, costs, religious reason, and a distrust]	OECD (2018) Global Findex Survey
Control variables		
Financial Literacy	Likert Scale [Learn about it, and I know what I mean]	OECD (2018) World Bank Financial Survey
Age	Categorical variable, where respondents select their age range from predefined categories	OECD (2018) World Bank Financial Survey
Sex	1 if the respondent is female and 0 otherwise.	OECD (2018) World Bank Financial Survey

IV. Findings and Discussion

Sample and Data Set

Data show that urban dwellers, especially in developing countries, typically have better access to financial services than those in rural areas (Demirgüç-Kunt et al., 2018). Under this survey, 200 people in the Jaffna and Trincomalee districts were chosen as a subset of the public, 100 drawn from each urban region, considering their unique characteristics, demographics, socioeconomic factors, accessibility, and potential for local collaborations. To reduce

outliers' influence, we reviewed the dataset for any data entry errors, missing values, or inconsistencies and considered correcting or removing them. If the missing data are more than 2% of the variable's total value, such questionnaires were deleted from the data set.

Descriptive Statistics on basic demographic variables

Demographic data from Trincomalee and Jaffna districts showed that 50% of respondents were between 18 and 25 years old, with 28.5% aged between 26 and 35, 20.5% between 36 and 45, 15.5% between 46 and 55, and 10.5% between 56 and 65. 44.5% were female, and 55.5% were men. 21% held a primary degree, and 2% completed post-education. Most were A/Ls, with 5% and 12.5% indicating poor literacy.

Table 2. Demographic Variables

Demographics	Categories	N	%
Age	18 – 25	40	20%
	26-35	57	28.5%
	36-45	41	20.5%
	46-55	31	15.5%
	56-65	21	10.5%
	Above 65	10	5%
Gender	Female	89	44.5%
	Male	111	55.5%
Edu-Qualification	No Formal	10	5%
	Primary	25	12.5%
	O/L	47	23.5%
	A/L	72	36%
	Undergraduate	42	21%
	Postgraduate	4	2%
Place	Jaffna	100	50%
	Trincomalee	100	50%

Source: Primary data

Correlation Analysis

Table 4.12 demonstrates a moderate and significant negative connection between the cy balance and household Debt performance ($p < 0.05$) and the dependence, which exhibits a weak and significant inverse correlation ($p<0.05$) with household debt performance. No relationships with the CY balance are insignificant ($p>0.05$) for dependence. Dependency and FI have a substantial expected positive correlation ($p<0.05$) but not with debt performance or dependency. The expected positive correlation between access, utilization, penetration, and FI is highly significant ($p<0.01$) and perfectly aligned. Significant positive correlations exist between all FI indexes and FI. The usage index only significantly correlates with a week across all dependent variables. FL and education level show a weak positive correlation between debt performance and basic literacy, which negatively correlates with the barrier index. Homeownership does not significantly correlate with any other factors. Control variables have relationships with other variables that are not correlated, such as income's substantial correlation with HI measures and its moderate effect on FL and literacy.

Table 3. Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1) Debt Performance	1													
(2) Dependency	-0.159*	1												
(3)C-Y Balance	-0.49*	0.048	1											
(4) FI	-0.082	0.159*	0.052	1										
(5)FI-access	-0.053	0.14*	0.00	0.98*	1									
(6)FI-usage	-0.143*	0.164*	0.156*	0.914**	0.189*	1								
(7)FI-barriers	0.41	-0.153*	-0.002	0.978*	0.994*	0.812*	1							
(8)FL	0.142*	-0.034	-0.199*	-0.001	-0.021	0.028	-0.01	1						
(9)Edu-Level	0.336*	-0.042	-0.169*	-0.064	-0.065	-0.072	-0.047	0.411*	1					
(10)Homeownership	-0.56	0.24	0.074	0.041	0.008	0.088	0.023	0.020	0.041	1				
(11)Age	0.049	0.052	-0.049	-0.077	-0.068	-0.77	-0.77	-0.217*	-0.473*		1			
(12)Gender	0.00	-0.26	0.11	-0.134	-0.142*	-0.1	-0.142*	0.038	0.033	0.176*		1		
(13) District	0.086	0.095	0.102	0.008	-0.037	0.087	-0.024	0.253*	0.135	0.192*	-0.270*	0.312*	1	
14) Income	0.176*	-0.08	-0.679*	-0.086	-0.062	-0.131	-0.054	0.296*	0.377*	-0.073	-0.104	-0.051	0.009	1

Source: Primary data.

Regression Analysis

The analysis conducted in Table 6 reveals several significant findings related to the variables studied. Firstly, the dependency ratio positively and significantly impacts financial (FI) access. Increased spending behavior among people may also result from enhanced access to financial services and goods, which may be positively correlated with the consumption-to-expenditure ratio.

According to our findings, increased financial inclusion may cause a rise in household borrowing and debt. Debt performance is only slightly and significantly correlated with financial inclusion. Due to this, households may only have a small amount of money left over after paying off their debts (subsistence levels of income). This circumstance can lead to financial strain and make it difficult for households to maintain a stable and sustainable financial position. It may also make it difficult to pay for basic living needs. Indebted households have the highest dependency, most significant C-Y ratios, and lowest debt performance. However, there is no significant effect on the CY balance.

Table 4. Regression Analysis: FI and HI Indicators

	Debt Performance			***Dependency***			***C-Y Balance***		
Variable	Predicted Sign	beta	sig	Predicted Sign	beta	sig	Predicted Sign	beta	Sig
FI	-	0.009	0.089	+	0.159	0.025	+	0.032	0.648
FL		0.159	0.030		-0.026	0.774		-0.216	0.003
Age		0.071	0.341		0.061	0.536		-0.930	0.354
Sex		-0.006	0.938		0.047	0.852		0.105	0.148
F statistic – 71.131									
R^2 – 0.581									

OLS regressions of FI on Household Indebtedness and control variables (for individual respondents)

***p<0.05**

The analysis reveals several vital relationships between financial inclusiveness, household indebtedness, and control variables. Access To financial products is inversely related to debt performance and financial inclusiveness indicators (access and usage). Increased utilization of financial products is associated with lower income after debt service repayment and a higher dependency ratio, indicating more financial strain due to unemployed family members. However, there is a positive correlation between product usage and the CY balance.

A negative association between barriers and the dependency ratio implies that households facing obstacles may experience higher financial pressures and debt, which hampers financial inclusion. Moreover, there is a positive connection between barriers and debt performance. However, no significant association is

found between debt performance and the CY balance with the barrier index.

Control variables such as income and gender also demonstrate expected relationships with the measures of overall debt performance. Income is highly related to debt performance, while gender has a moderate association. Age, on the other hand, does not show a significant relationship with the variables.

The regression analysis confirms a significant relationship between financial inclusiveness and the dependency ratio, suggesting that an increase leads to a higher dependency ratio. However, there is no meaningful association between financial inclusiveness and the CY balance and debt performance.

Overall, the analysis highlights the complex relationships between financial inclusiveness, household indebtedness, and control variables, emphasizing the importance of considering various factors when examining these dynamics.

Table 5. Regression Analysis: Access and HI Indicators

	Debt Performance			***Dependency Ratio***			***C-Y Balance***		
Variable	**Predicted Sign**	**beta**	**sig**	**Predicted Sign**	**beta**	**sig**	**Predicted sign**	**beta**	**Sig**
Access	-	0.043	0.550	+	0.145	0.046	+	0.042	0.945
FL		0.157	0.032		-0.018	0.801		-0.217	0.03
Age		0.079	0.294		0.060	0.422		-0.104	0.156
Sex		0.006	0.939		0.008	0.910		0.77	0.162
F statistic – 28.621									
R^2 – 0.761									

OLS regressions of Financial Access [Penetration] on Household Indebtedness and control variables (for individual respondents)

***p<0.05**

Table 6. Regression Analysis: Usage and HI Indicators

	Debt Performance			***Dependency Ratio***			***C-Y Balance***		
Variable	Predicted Sign	beta	sig	Predicted Sign	beta	sig	Predicted Sign	beta	Sig
Usage	-	0.143	0.052	+	0.170	0.018	+	0.168	0.017
FL		0.157	0.031		-0.026	0.721		-0.215	0.003
Age		0.071	0.341		0.061	0.411		-0.054	0.455
Sex		-0.006	0.938		0.005	0.942		0.126	0.081
F statistic – 83.599									
R^2 – 0.276									

OLS regressions of Financial Usage on Household Indebtedness and control variables (for individual respondents)

***p<0.05**

Table 7. Regression Analysis: Barriers and HI Indicators

		Debt Performance			***Dependency Ratio***			***C-Y Balance***	
Variable	Predicted Sign	beta	sig	Predicted Sign	beta	sig	Predicted Sign	beta	Sig
Barriers	+	0.032	0.664	-	0.159	0.028	-	0.005	0.945
FL		-0.158	0.032		0.019	0.791		0.217	0.003
Age		0.080	0.919		0.063	0.399		0.070	0.348
Sex		0.008	0.664		0.011	0.884		0.104	0.156
F statistic – 11.060									
R^2 – 0.311									

OLS regressions of Barriers on Household Indebtedness and control variables (for individual respondents)

***p<0.05**

The control variables in the regressions conducted by (Kabir and Thai, 2017) consistently displayed the expected sign. The study found a significant correlation between high levels of financial illiteracy and high debt performance. The p-value for financial literacy (FL) was less than 0.05, indicating a significant association between FL and debt performance. Individuals with higher financial literacy tend to make wiser loan choices, while those with lower financial literacy often make poorer loan decisions.

FL was also negatively associated with C-Y balance ($p<0.05$), indicating that higher financial literacy is linked to a better balance between monthly bills and income. However, there was no significant association between FL and the dependency ratio. The study showed that FL was significantly associated with almost all measures of household indebtedness (HI) indexes. Regarding financial literacy, the findings supported the idea that households with low financial literacy tend to have higher levels of debt (negative relationship with C-Y Balance and dependency ratio), while literate individuals actively participate in credit markets (positive relationship with debt performance), as observed in the correlation analysis.

Financially illiterate people may need to be made aware of the financial services available, how to access them, or how to use them efficiently, which can create barriers to financial inclusion. Their financial inclusion may be hampered by the underuse or abuse of financial products due to this ignorance. The study also revealed a connection between self-control issues and a higher risk of excessive debt, as indicated by hyperbolic depreciation (Gathergood, 2012). The relationship between other demographic variables, such as age and sex, and all measures of HI variables was insignificant in most regressions.

V. Conclusion

According to the analysis, the dependency ratio positively impacts financial inclusiveness (FI) in Trincomalee and Jaffna. Higher dependency ratios are associated with increased access to credit for younger job

seekers, allowing them to finance their homes and expenses without risking over-indebtedness, provided that the ratio does not surpass a threshold of 1. The study defines the dependency ratio as the proportion of one household of unemployed individuals significantly affecting their debut performance. Findings indicate that households with higher dependency ratios, especially those with young family heads, lower income, and larger dependent populations, tend to have worse credit outcomes than households. This result aligned with previous studies by Betti et al. (2007) and Xiao & Yao (2014), indicating that young households relying on family are more likely to exhibit credit behavior, consistent with the Permanent Income Theory. The credit rationing theory suggests that, due to higher interest rates in formal credit markets, a higher percentage of dependents relying on official credit sources is correlated with higher debt levels. This supports Betti's (2007) study, indicating a positive correlation between household debt (dependency ratio) levels and credit barriers. This study provides statistical support for Thailand for the first time and underscores the significant impact of FI on the dependency ratio.

Moreover, FI has a negative association with debt performance. As borrowing becomes more challenging, households must increase their buffers to counteract income disruptions. Increased spending ratios from expanded credit markets lead to worse debt performance, as consumption growth inversely correlates with debt performance. The analysis reveals that debt-ridden households typically allocate a significant portion (92% to 99%) of their monthly income toward bills, leaving limited room for savings and restricting their ability to take on more debt (Thailand, 2013c). Access to the formal credit market also plays a role in debt outcomes.

The Ordinary Least Squares (OLS) model analysis indicates that the usage index significantly negatively impacts debt performance. In contrast, the variables of barriers and access do not significantly impact debt performance or the CY balance. However, two variables (access and usage) have a significant positive impact on the dependency ratio. This suggests that FI significantly impacts household debt in the sampled districts. These findings align with the research by Li et al. (2023) (2022) and Alter et al. (2022). Overall, the usage index shows a significant relationship with all household debt (HI) measures, which measures significant associations and HI.

Correlation analysis reveals no statistically significant relationship between FI and debt performance or the CY balance. However, usage is significantly associated with debt performance, the CY balance, and the dependency ratio. Increasing usage is linked to a higher CY balance and dependency while decreasing debt performance. The variables of access and barriers do not show a significant relationship with debt performance or the CY balance at the 0.05 significance level.

The CBSL strategy aims to enhance financial inclusion (FI) without leading to over-indebtedness by improving products and services for underserved segments, potentially reducing household indebtedness. However, the strategy needs clear indications and coordinated and comprehensive financial literacy programs. Our regression findings support that future Sri Lankans may need to enhance their financial knowledge, skills, and behaviors to meet their basic financial needs. Importantly, it is were no instances of over-indebted households in the study.

Future researchers may also consider using dependent variables that measure HI, particularly the overall index measure, which was not included in this study, to explore their relationship with financial inclusion (FI). Financial literacy, which could significantly impact FI and HI among households, should also be considered.

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