

Financial Inclusion and Inclusive Growth

What Does It Mean for Sri Lanka?

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Abstract

This paper uses data from the National Financial Inclusion Survey 2018 to understand the determinants of financial inclusion in Sri Lanka and their significance for inclusive growth. The findings highlight that gender, education, and formal employment are important determinants of financial inclusion in the country. The results indicate that being a male, having better education, and having formal employment increase a person's access to, and usage of, formal finance. The results also suggest that despite high levels and gender parity in education, Sri Lankan women seem to access more informal finance (and less formal finance) compared with men. There is a general lack of familiarity

and low use of digital finance among women. Comparative analysis using the World Bank Group's Global Financial Inclusion (Global Findex) Database 2017 indicates that although Sri Lanka leads its regional peers in access to finance, it lags its more aspirational East Asian counterparts in usage of savings and credit products as well as digital finance. The paper's findings complement recent policy initiatives such as the National Financial Inclusion Strategy for Sri Lanka. The findings also help in designing targeted actions to address the remaining gaps in financial inclusion in Sri Lanka.

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1. Introduction

In 2019, Sri Lanka reached the status of an upper middle-income country,¹ just crossing the target rate for gross national income (GNI) per capita of USD 3,996. The national poverty headcount ratio has also continued to decline, with extreme poverty restricted to a few geographical areas of the country. Despite this, a number of Sri Lankans still live just above the extreme poverty line. It is estimated that 8.7 percent of the population survives on USD 3.20 per day.² Against this backdrop, ensuring inclusive growth will be crucial to sustaining Sri Lanka in the upper-middle income bracket in the years to come.³ Inclusive growth is a long-term concept, where the idea is to encourage productive employment rather than simply income redistribution (see Ianchovichina and Lundstrom, 2009). Inclusive growth entails improving the pace of growth, expanding the economy's size, and providing a level playing field for investments, all leading to more productive employment opportunities.

Financial inclusion⁴ is an important enabler of inclusive growth as it helps people to invest in the future, manage financial shocks, and smooth household consumption, all of which can contribute to reductions in poverty and inequality. It is a means through which people at both low and high levels of income can be integrated into the formal financial system, thereby contributing to the formal economy (see Martinez, (2011) and Zulfiqar et. al. (2016)). For businesses, financial inclusion enables critical investments and access to capital. Therefore, access to and usage of formal finance contributes to inclusive growth from multiple angles (see Banerjee & Newman, (1993); Galor & Zeira, (1993); Aghion & Bolton, (1997), Beck, Levine and Loayza (2000); Klapper, Laeven, and Rajan (2006); Beck, Demirgüç-Kunt, and Levine (2007); Demirgüç-Kunt and Levine (2009); World Bank (2008) and Demirgüç-Kunt et al. (2017)).

¹ The World Bank defines middle-income countries in two categories: (1) lower-middle-income economies with a GNI per capita between USD 1,026 and USD 3,995 and (2) upper-middle-income economies with a GNI per capita between USD 3,996 and USD 12,375. Source: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.

² <https://www.worldbank.org/en/country/srilanka/overview#4>

³ Inclusive growth refers to both (a) the rapid 'pace' of growth leading to poverty reduction as well as (b) the 'pattern' of growth to span across sectors and be inclusive of the country's labor force (Ianchovichina, E. and Lundstrom, S., 2009).

⁴ Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transaction accounts, payments, savings, credit, and insurance – delivered in a responsible and sustainable way (<https://www.worldbank.org/en/topic/financialinclusion/overview>).

More broadly, a wide range of empirical literature identifies the importance of financial inclusion in promoting economic growth and reducing income disparities. Demirgüç-Kunt et.al (2013) observed a strong positive correlation between the use of formal financial services and the level of GDP per capita in a country. A similar conclusion was drawn by King et al. (1993) who studied the sources of growth of 80 countries between 1960 and 1989, which illustrated that advancement in bank assets (measured by the ratio of liquid liabilities to GDP) was positively associated with economic growth, physical capital accumulation, and economic efficiency, even when controlled for country and policy characteristics. This relationship was further evidenced by the study of financial inclusion and economic growth in a research paper covering 55 Organization of Islamic Cooperation (OIC) countries by Dai-Won et al. (2018). A study of 37 developing Asian economies by Park and Mercado (2015) showed that financial inclusion contributed significantly to reducing poverty and lowering income inequality in those countries. Financial inclusion is therefore recognized as a key enabler for 7 of the 17 United Nation’s Sustainable Development Goals and for meeting the World Bank’s twin goals of reducing extreme poverty and boosting shared prosperity.

Access to a basic account at a formal financial institution where money can be stored safely is a primary metric of financial inclusion. Access to stored funds can be used as a bulwark against sudden economic shocks among the poor, as seen in the study of financial diaries of 250 poor households by Collins et al. (2009). Other studies have shown that access to a formal account by underserved individuals helped them to meet unexpected expenses such as health needs (see Dupas and Robinson (2013)).

Yet financial exclusion is still widespread around the world. World Bank estimates show that 1.7 billion adults worldwide still have no access to formal financial services – meaning that nearly 38 percent of the world’s population is still financially excluded (Demirgüç-Kunt et al., 2017). Within the South Asian Association for Regional Cooperation (SAARC) region, Islam et al. (2017) observed that “although much progress had been achieved, huge work remains to be done to foster financial inclusion for inclusive growth”.

Human development and financial inclusion have a strong positive correlation, while financial exclusion⁵ is linked to social exclusion. A study by Sarma and Pais (2011) shows that countries that are low in financial inclusion also score low in overall human capital factors such as GDP per capita, income inequality, literacy, urbanization, and connectivity. As noted by the Financial Action Task Force (FATF), financial exclusion is considered a threat in the context of combatting money laundering and the prevalence of such risks can threaten the financial integrity of a country (see FATF (2011)).

While promoting financial inclusion has been a main focus for policy makers in Sri Lanka, a significant informal financial sector continues to exist in the country (Karunagoda, 2007). The popularity of informal financial services in Sri Lanka was surveyed by Adikari (2012), which found that such services were closer to rural communities due to personal relationships/family ties and ease of physical access. Such "financial dualism" (Germidis et al., 1991) is common in most developing countries, where a large informal financial sector which serves the lower end of the market co-exists alongside the formal financial system.

The World Bank defines financial inclusion as “access to and usage of appropriate financial products and services by individuals and enterprises” (World Bank, 2018). The emphasis in financial inclusion is on formal financial services supplied by regulated financial institutions. This is because when compared to informal finance, formal finance offers less restricted funding supply, better credit terms (Karunagoda, 2007; Dao, 2002), and a more regulated and secure environment with better safeguards for consumers. Beck et al. (2004) observed that financial inclusion can make stronger contributions to more efficient resource allocation (and thereby to poverty reduction) in economies where formal financial systems are better developed. Therefore, the focus of this paper is on formal financial services.

Other studies have been undertaken on financial inclusion in Sri Lanka. For example, financial literacy was recognized as a tool to improve financial inclusion in a study by Heenkenda (2014),

⁵ Several definitions exist for financial exclusion. Broadly it refers to those processes that prevent poor and disadvantaged social groups from gaining access to the financial system (Leyshon et al. (1995)). It can be seen as the inability of certain societal groups to access the financial system (Carbo et al. (2005)) or a process that prevents disadvantaged social groups from accessing the formal financial system (Conroy (2005)).

which found that certain socio-demographic characteristics such as education, gender, and income level had a role to play in determining the level of financial inclusion of Sri Lankans. Fintech can also play a role in improving financial inclusion for rural communities, as seen in many parts of the world. A study by Colombage (2010) explored the relevance of fintech in the Sri Lankan context.

However, none of the aforementioned studies specifically focused on the implications of financial inclusion in contributing to inclusive growth in Sri Lanka. Analysis of the status of financial inclusion with a view towards creating a more level playing field and increasing opportunities for productive engagement needs to consider socio-demographic factors as well. This paper provides a comparative analysis of the state of financial inclusion in Sri Lanka, taking into consideration socio-demographic factors. It analyzes the determinants of financial inclusion using data from the 2018 National Financial Inclusion Survey for Sri Lanka. It concludes by highlighting some implications for financial inclusion and inclusive growth in Sri Lanka.

1.1. A Brief History of Financial Inclusion Initiatives in Sri Lanka

The arrival of the British in 1828, and the establishment of the commercial plantation sector, saw the start of formal financial services in Sri Lanka (Seelanantha and Wickremasinghe, 2009). A parallel informal financial sector also emerged, composed primarily of moneylending and pawnbroking. As pawnbroking became popular, laws were enacted to protect customers⁶ and implement anti-usury policies (Karunagoda, 2007). The 20th century saw the rise of the cooperative movement as an organized mechanism to serve the farming community's financing needs. Sri Lanka's central banking system was formally established in 1950 following independence from the British, where the Central Bank of Sri Lanka's (CBSL) primary objective initially was on monetary policy.⁷ In later years, the CBSL formally took on the role of managing and deploying development finance lending programs on behalf of the government under a dedicated regional development department.

⁶ The first Ordinance for Pawnbroking was enacted in 1942.

⁷ <https://www.cbsl.gov.lk/en/about/about-the-bank/bank-history>

The opening up of the economy in 1977 paved the way for financial institutions to expand and develop new financial products and services to cater to the growing needs of a more open economy beyond the plantation sector (Fernando & Nimal, 2014).

The drive to advance financial inclusion has historically been led by the government. The 1980s saw the establishment of Rural and Regional Development Banks across the country as well as state commercial banks, through which a variety of state-initiated programs to increase financial inclusion were deployed. In addition, decades-long initiatives exist in Sri Lanka to promote village-level organizations for community development. Such welfare programs often include the provision of basic financial services, for example special government programs such as “Janasaviya”, “Divineguma” and “Samurdhi”.

However, the formal financial sector has struggled with institutional, bureaucratic, systemic, and attitudinal problems that have impeded efforts to effectively reach underserved consumers. Partly due to this fact, the informal financial sector has remained a strong parallel to the formal financial sector. Identifying the vacuum in the formal financial sector to serve the lower end of the market, some private commercial banks have set up dedicated units or separate non-bank financial subsidiaries to focus on financial inclusion.

The CBSL has been part of the Alliance for Financial Inclusion (AFI) since AFI began in 2008. In recent years, financial inclusion has received even greater national focus. A national financial inclusion strategy (NFIS) was developed in 2019 and is soon to be launched.⁸

⁸ <http://www.sundaytimes.lk/article/1037576/ifc-central-bank-to-jointly-create-national-strategy-on-financial-inclusion>

1.2. Financial Sector Landscape of Sri Lanka

Figure 1. Classification of financial sector players in Sri Lanka

Financial Service Providers		
Formal	Semi - Formal	Informal
Licensed Commercial Banks Licensed Specialized Banks Licensed Finance Companies Specialized Leasing Companies Licensed Microfinance Institutions Authorized Money Brokering Companies Authorized Primary Dealers	Co-operative Societies Micro Finance Institutions Community Based Organizations State-programs (e.g. Samurdhi, Divineguma)	Rotating Savings & Credit Association Money Lenders Friends & Relatives

Source: Updated by authors based on Kelegama et al. (2014) and Tilakaratna (2016).

As seen in Figure 1, Sri Lanka has a diverse financial sector which includes formal,⁹ semi-formal, and informal financial service providers. There are currently 26 licensed commercial banks (including 13 foreign banks) and 7 licensed specialized banks (CBSL, 2018). Physical access points include over 6,000 bank branches/outlets and 5,000 ATMs island-wide. As of March 2019, bank branch density of Sri Lanka was at 16 branches per 100,000 adults,¹⁰ nearly double the South Asian regional average of 9.4 per 100,000 adults.¹¹

2. Comparative Analysis of the State of Financial Inclusion in Sri Lanka

When analyzing financial inclusion, it is important to look beyond basic metrics such as ownership of a transaction account. It is the usage of such accounts and other financial services which is more critical. Sri Lanka has made noteworthy advancements in terms of basic financial inclusion metrics. For example, the number of adults with accounts at formal financial institutions stands at 74 percent, ahead of the regional average in South Asia of 68 percent (Global Findex 2017). However, usage of transaction accounts has room to improve, with 26 percent of adults having

⁹ Formal financial services are regulated by the financial sector regulators (Central Bank of Sri Lanka covering banking, finance and leasing companies, Insurance Regulatory Commission of Sri Lanka covering insurance, and Securities and Exchange Commission of Sri Lanka covering capital markets).

¹⁰ Annual Report CBSL 2018.

¹¹ World Development Indicators, 2015.

made no deposit or withdrawal in the past year.¹² In addition, only 29 percent of adults have savings at formal financial institutions and just 17 percent have loans.¹³ This data indicate that despite Sri Lanka’s sizeable per capita income and overall level of human capital development, the full potential for financial inclusion remains unfulfilled. If Sri Lanka aims to sustain its recent upper middle-income status, it is more relevant to compare its financial inclusion achievements with those of other countries which have similarly progressed. In this context, we summarize below comparative financial inclusion indicators for Sri Lanka against the South Asian average as well as other middle income and aspirational counterparts.

Table 1: Financial inclusion indicators¹⁴

	<u>Sri Lanka</u>	<u>South Asia</u>	<u>East Asia</u>	<u>Upper Middle</u>	<u>Thailand</u>	<u>Malaysia</u>
	<u>2017</u>	<u>2017</u>	<u>2017</u>	<u>2017</u>	<u>2017</u>	<u>2017</u>
GNI Per Capita (\$)	3850	1611	6667	8176	5640	9860
Human Capital Index (0-1)	0.58	0.46	0.61	0.58	0.6	0.62
<u>Access to Formal Finance</u>						
Financial institution account (% age 15+)	74%	68%	73%	73%	81%	85%
<u>Usage of Formal Finance</u>						
Saved at a financial institution (% age 15+)	29%	17%	31%	27%	39%	38%
Borrowed from a financial institution (% age 15+)	17%	8%	21%	22%	20%	23%
Made or received digital payments in the past year (% age 15+)	47%	28%	58%	62%	62%	70%

Source: Little Data Book on Financial Inclusion 2018

The above comparison reveals mixed results. East Asian achievers like Thailand and Malaysia fare better on both access to, as well as usage of, formal finance. While Sri Lanka seems on par or slightly ahead of the East Asian average (as well as the upper middle-income countries’ average) in terms of account ownership, it is lower in terms of usage of credit and digital payments. This indicates that opportunities to scale up usage of transactional services through more efficient

¹² World Bank Findex 2017.

¹³ Little Data Book on Financial Inclusion 2018.

¹⁴ The latest Findex available is for 2017, hence data used are from 2017 for comparison purpose.

offerings such as electronic payments and mobile banking remain largely unexploited, particularly when compared to peers like Thailand and Malaysia.

In terms of physical access to outlets, Sri Lanka also enjoys high levels of banking penetration, with bank branch density at 17 per 100,000 adults, compared to the South Asia regional average of 10.2. Interestingly, countries like Malaysia (10.2) and Thailand (11.7) do not fare much better than even the South Asian average when it comes to physical branch penetration. However, they are far ahead in terms of digital financial inclusion¹⁵ (the upper middle-income average was at 62 percent) which is a more efficient and flexible mode of banking compared to physical financial access. Overall, when considering Sri Lanka's level of financial inclusion, there is evidence to show that ease of physical access to accounts has not translated into full financial inclusion, particularly with respect to usage.

3. Data and Methodology

Information from the recently concluded National Financial Inclusion Survey (NFI survey) for Sri Lanka is used in our analysis, given its national coverage and data quality.¹⁶ The NFI survey was initiated by the CBSL and the International Finance Corporation. It was the first such focused survey on financial inclusion for Sri Lanka. The data indicators capture Sri Lankans' behavior relating to saving, borrowing, making payments, and managing risks, as well as with respect to financial capability.

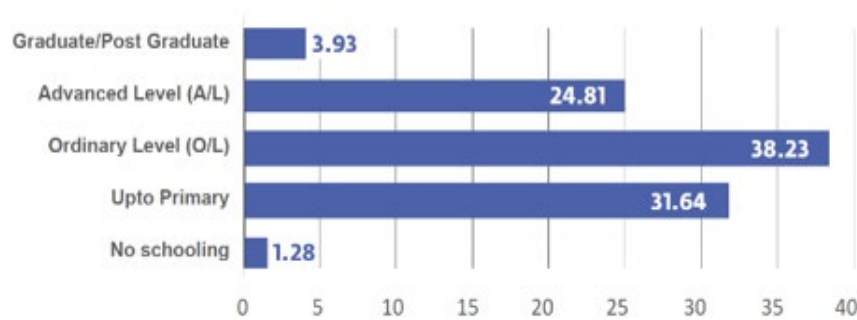
3.1. NFI Survey Data

The survey data are based on face-to-face interviews with 4,791 nationally representative and randomly selected Sri Lankans over 18 years of age, stratified by geographic areas. Fifty-six percent of the sample respondents were female, and 83 percent lived in rural areas. The age of respondents varied between 18 and 97 years, with a mean of 45 years.

¹⁵ "Digital financial inclusion" can be defined broadly as digital access to and use of formal financial services by excluded and underserved populations (CGAP, 2015).

¹⁶ The sample was stratified at 2 levels (stratified by households in urban/rural sector within each of the 25 administrative districts) maintaining 95% confidence at each stratum.

Figure 2. Diversity in education in the sample



Source: NFI survey, 2018

Of the respondents, 31.64 percent had only basic schooling (up to the primary level), 38.23 percent had passed their Ordinary Level Certificate exam, while 24.81 percent had completed the Advanced Level Certificate exam; 3.93 percent had completed some form of higher education. Eighty-six percent were married, 5.89 percent were retired, and 57.43 percent were in some form of employment.¹⁷

3.1.1. Key findings from the NFI survey data

Having a deposit or transaction account can serve as an entry point to the formal financial sector for individuals (Demirgüç-Kunt et al., 2017). Thus, Sri Lanka has traditionally focused policy efforts on increasing financial inclusion by expanding access points across the country to facilitate account ownership.¹⁸ The NFI survey data indicated a high level of bank account ownership among survey respondents across all nine provinces of the country. The concrete, real-world impact of policy efforts is evident as we also see a close relationship between the increase in the number of

¹⁷ Employment included either formal - public or private sector, informal, seasonal and self employed.

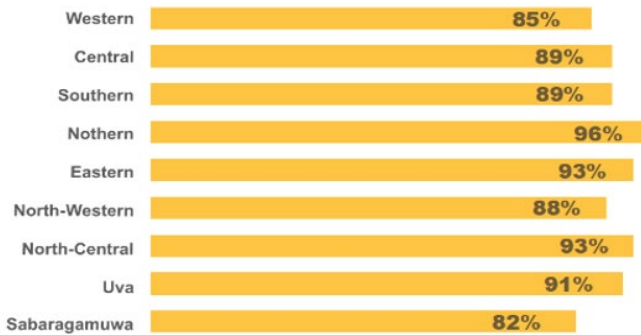
¹⁸ CBSL Circulars

https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/cdg/Expanding%20Access%20to%20Banking_0.pdf and

https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/laws/cdg/bsd_LCB_Up_to_30_Nov_2013_compressed_0

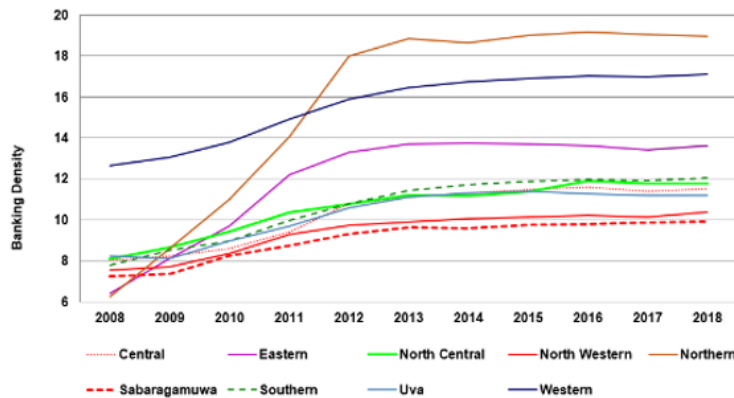
branches in any given province and the level of account ownership in that province (Figures 3 and 4).

Figure 3. Bank account ownership across provinces



Source: NFI survey, 2018

Figure 4. Improvement in LCB density by province - Number of bank branches per 100,000 population



Source: CBSL, 2018

As seen elsewhere, Sri Lankan respondents cited various sources of borrowing, including from both formal and informal sources, as well as various motives for borrowing. Of those respondents who had borrowed, 52 percent did so from a formal financial institution (i.e. both banking and non-banking financial institutions), with the rest accessing informal sources like unregulated microfinance institutions, government community programs, family and friends, cooperatives, and moneylenders. Of the women who accessed borrowing, 62 percent did so from non-bank financial institutions. The overall main motive for borrowing was for home improvements (29 percent)

followed by emergency expenses (11 percent). The popularity of borrowing for emergencies indicates the common tendency of individuals to use credit to manage financial risks, corresponding to the low penetration of formal insurance in the country (1.26 percent of GDP in 2018).¹⁹ Insurance could have been a more appropriate product for such instances, as it also offers additional benefits (Karlan and Morduch, 2010).

Across the world, common motives cited by consumers for saving range from the need to meet future expenses and unexpected emergencies to investment purposes. The same was found in Sri Lanka, where being prepared for emergency expenses was the main motivation for saving (56.9 percent). Women seemed more risk averse and inclined to save, with 59 percent saving for a rainy day (compared to 54 percent of men).

Globally, the main reason cited by individuals for not having an account is lack of money to use an account (Demirgüç-Kunt et al., 2017). This same rationale may be extended to Sri Lanka. While account penetration is high in the country, 17 percent of respondents mentioned not having made any deposit or transfer to their account in the past year. In terms of savings, the main reason cited by respondents for not saving was that they had no excess cash to save (56 percent). The results were similar for both men and women. This indicates that accounts are being opened by individuals without the intent to make ongoing transactions. Reiterating our earlier discussion, despite the country recently graduating to upper middle-income status, the stark reality is that there is a large proportion of the population who live just beyond the poverty line and hence believe that they do not have sufficient funds to regularly utilize a transaction account.

Usage of digital methods to conduct financial transactions was also found to be low. For instance, only 15 percent of respondents used debit cards for payments at retail stores and less than 10 percent used credit cards for the same purpose. A preference for cash use (42 percent) followed by not having a card (35 percent) were cited as the main reasons for low usage of digital channels. The strong influence of traditional banking practices was evident from the fact that a majority of respondents (85 percent) preferred going to a bank cashier to conduct financial transactions, which nearly half of respondents stated they could access in less than 15 minutes. The enduring popularity

¹⁹ There are 26 insurance companies in operation (CBSL Annual Report, 2018).

and dependence on the brick and mortar model is a deterrent to the expansion and uptake of digital financial services.

3.2. Methodology

Having observed the current status of financial inclusion as covered by the NFI Survey in the previous section, we now use several Probit models to understand how certain characteristics are related to financial inclusion. This approach is similar to comparable studies by several authors (Cámara, Peña and Tuesta (2014), Fungacova and Weill (2015), Tuesta et.al (2015), Zulfiqar et.al (2016), Zins and Weill (2016)) who too used probit estimations²⁰ stemming from the basic formula:

$$y_i^* = x_i' \beta + u_i \quad \text{Formula 1}$$

Where y_i^* is a latent variable, which depends on x being a vector of exogenous variables, β is a vector of parameters, the subscript i represents individuals and u is a normally distributed error term with mean 0 and variance 1.

Based on this, a formula popular among previous authors to analyze the determinants of financial inclusion is as follows:

$$fin.Inc_i = \alpha + \beta * income_i + \gamma * education_i + \delta * age_i + \sigma * gender_i + u_i \quad \text{Formula 2}$$

where $finInc$ denotes one of three indicators of formal financial inclusion (i.e. having an account at a formal financial institution (FI), saving at a formal FI, and borrowing from a formal FI) and i is the index for individuals. Given that the endogenous variable is a binary response – i.e. whether the individual uses formal financial service – it can only take the values 0 or 1. It is assumed that the decision to use formal financial services depends on a latent variable, which is determined by

²⁰ In Probit regression, the cumulative standard normal distribution function $\Phi(\cdot)$ is used to model the regression function when the dependent variable is binary. <https://www.econometrics-with-r.org/11-2-palr.html>
This model is adopted from “Clamara, N., Pena, X. and Tuesta, D. (2014).” And Tuesta, D. Sorensen, G. Haring, A. and Cámara, N. (2015) and amended as per the requirements of the present study.

a set of exogenous variables i.e. income, education, age and gender. Accordingly, using formula 2, we estimate Maximum Likelihood as a series of probit models. The marginal effects on the latent variable are calculated from the models, where the coefficients represent the change in the probability of using formal financial services when, for example, β changes, all other things being equal.

This paper builds on the above model, with two modifications as follows:

- In place of income levels of individuals, our analysis uses the variable “type of employment” as a proxy, given that the NFI survey (2018), does not capture the income levels of individuals.
- “Use of digital cards” was included as a fourth indicator of formal financial inclusion (*finInc*). This is similar to the work by Tuesta et al. (2015) where digital financial inclusion was considered. Our indicator captures use of debit and credit cards at either an ATM or a retail store.

Using Formula 2, the first set of results aim to understand the determinants of financial inclusion based on socioeconomic factors. This is followed by the second set of results which probe further into determinants of informal finance. Tables A.1 and A.2 in the Appendix describe the variables included in each of the regressions in detail.

4. Empirical Results

4.1. Factors That Drive Formal Financial Inclusion

As stated in the previous section, we consider the following four products/services as indicators of formal financial inclusion: (1) having an account in a formal financial institution (*account*), (2) having a loan from any institution in the formal financial system (*formal credit*), (3) saving at an institution in the formal financial system (*formal savings*), and (4) usage of credit or debit cards at an ATM or a merchant outlet (*digital cards*).

Table 2. Determinants of Formal Financial Inclusion

	Formal Accounts	Formal Savings	Formal Credit	Digital Cards
Female	-0.0349*** [0.0095]	-0.0355*** [0.0128]	-0.1515*** [0.0210]	-0.1068*** [0.0140]
Age 35-54	-0.0279*** [0.0105]	0.0028 [0.0151]	0.0402* [0.0238]	-0.1979*** [0.0169]
Age 55-64	-0.0618*** [0.0151]	0.0149 [0.0185]	0.0051 [0.0347]	-0.4244*** [0.0223]
age 65 & above	-0.1249*** [0.0201]	-0.0713** [0.0301]	-0.0536 [0.0524]	-0.5221*** [0.0257]
Secondary education	0.0666*** [0.0113]	0.0920*** [0.0176]	0.1737*** [0.0233]	0.2135*** [0.0163]
Tertiary education	0.1536*** [0.0122]	0.1329*** [0.0244]	0.3255*** [0.0501]	0.3980*** [0.0356]
Formal employment	0.0499*** [0.0098]	0.0238* [0.0132]	0.1246*** [0.0223]	0.1264*** [0.0150]
Observations	4791	2179	2268	4251
Pseudo R2	0.0669	0.0558	0.0646	0.1851
Loglikelihood	-1610.4649	-637.62312	-1482.1384	-2374.9875
Predicted probability (at mean values)	0.8833	0.9054	0.4943	0.5317893

The estimated marginal effects are reported. Standard errors are in parentheses.

*** Denotes significance at the 1% level.

** Denotes significance at the 5% level.

* Denotes significance at the 10% level.

Table 2 shows how different characteristics of individuals influence the probability of them using formal financial products. Specifically, our results show that women are less likely to have a formal account, access formal credit, have formal savings or use digital cards. While this is similar to observed behavior among women in Pakistan (Zulfiqar et.al., 2016), it is somewhat different from the observations in most other studies such as the ones covering Africa²¹ (where formal credit was not sensitive to gender), China²² (where formal savings was not significant to gender), Argentina²³ and Peru²⁴ (where there was no gender disparity among all variables). Considering the level of

²¹ Zins and Weill (2016).

²² Fungacova and Weill (2015).

²³ Tuesta et.al (2015).

²⁴ Cámara et al., (2014).

gender parity in education levels achieved in Sri Lanka, this result is rather surprising and indicates the potential influence of other factors such as culture and perceptions.

Age was not a significant factor in determining the usage of financial products like savings and credit. However, a significant relationship was seen between age and access to formal finance as well as in the use of digital cards, where youth seemed to be savvier when compared to older age groups. This is in line with the “generational effect” as also seen in studies by Fungacova and Weill (2015), where older people were less likely to use formal financial services given that they were less familiar with them. On the other hand, this could also be due to lower motivation of financial institutions to supply them with appropriately designed products. Studies by Allen et al. (2012) found the existence of a non-linear relation between age and formal finance, which is not tested via our model yet could possibly be present.

Education has a positive influence on financial inclusion. Significant and positive marginal effects were seen across all indicators of financial inclusion, with higher marginal effects at higher levels of education. Similar observations were made in Pakistan,²⁵ though in China²⁶ the level of education was not seen to impact formal savings. This can be attributed to the widespread use of formal savings in China across the entire population, potentially due to engrained cultural habits (Zins and Weill (2016); World Bank (2018)).

We found that being formally employed was positively related to being financially included. All coefficients were positive and highly significant. Having formal employment relates most favorably to one’s ability to obtain formal credit as well as use digital cards. The latter is easily explainable since financial institutions in the local market still prefer predictable income flows evidenced by receipt of a regular salary over other forms of income.

Overall, we note that being educated and having formal employment play a significant role in being included in formal finance. For instance, a person with tertiary education has a 32 percent greater probability of obtaining formal credit and is 40 percent more likely to use digital cards

²⁵ Zulfiqar et.al (2016).

²⁶ Fungacova and Weill (2015).

compared to one having only up to primary education. While females are marginally less likely (3 percent) to own a formal account or have formal savings, the probability of obtaining credit is 15 percent less likely for them compared to males. This is in line with findings by Fay and Williams (1993), and Alibhai et al. (2019) which indicate the credit bias faced by women. Women are 11 percent less likely than men to use digital cards. Thus, being an educated and formally employed man is more favorable in using formal finance.

4.2. Factors That Drive Informal Financial Inclusion

Expanding further, the model was used to examine determinants of informal savings and credit. Table 3 shows the results comparing both formal and informal use of finance as well as aggregate use of same.

Table 3. Determinants of informal finance

	Formal Savings	Informal savings	Saved in the past 12 months	Formal Credit	Informal credit	Obtained a loan in the past 12 months
Female	-0.0355*** [0.0128]	0.0576*** [0.0221]	0.0318** [0.0148]	-0.1515*** [0.0210]	0.1167*** [0.0193]	0.0191 [0.0146]
age 35-54	0.0028 [0.0151]	-0.0021 [0.0254]	-0.0633*** [0.0180]	0.0402* [0.0238]	0.024 [0.0214]	0.0450** [0.0181]
age 55-64	0.0149 [0.0185]	-0.0573* [0.0343]	-0.0630*** [0.0236]	0.0051 [0.0347]	0.0268 [0.0311]	-0.1162*** [0.0235]
age 65 & above	-0.0713** [0.0301]	-0.0688* [0.0413]	-0.0958*** [0.0272]	-0.0536 [0.0524]	0.0104 [0.0485]	-0.3053*** [0.0240]
Secondary education	0.0920*** [0.0176]	-0.0490* [0.0255]	0.1048*** [0.0161]	0.1737*** [0.0233]	-0.1414*** [0.0191]	0.0262 [0.0160]
Tertiary education	0.1329*** [0.0244]	0.028 [0.0530]	0.2329*** [0.0402]	0.3255*** [0.0501]	-0.3293*** [0.0497]	0.2095*** [0.0374]
Formal employment	0.0238* [0.0132]	-0.028 [0.0228]	0.0614*** [0.0159]	0.1246*** [0.0223]	-0.0655*** [0.0200]	0.0562*** [0.0155]
Observations	2179	2,179	4,791	2268	2,268	4,791
Pseudo R2	0.0558	0.0068	0.0215	0.0646	0.0562	0.0514
Loglikelihood	-637.62312	-1453.6806	-3226.32	-1482.1384	-1275.603	-3145.495
Predicted probability (at mean values)	0.9054	0.41395	0.4504	0.4943	0.73226	0.47723

Table summarizes the estimated marginal effects from probit estimations based on our model. Standard errors are in parentheses.

*** Denotes significance at the 1% level.

** Denotes significance at the 5% level.

* Denotes significance at the 10% level.

The results indicated that gender played a significant role. The impact of gender was less on savings than on borrowing. Also, we saw that women were more likely to access informal savings (5.7 percent) and informal credit (11.7 percent) than their male counterparts. To explain further, women have 44 percent and men 38 percent probability of saving using an informal source. In the case of formal savings, the comparable probabilities were 90 percent for women and 93 percent for men. Turning to credit, women have 78 percent probability compared to 66 percent for men of borrowing from an informal source, while the probability gap was higher for formal credit at 43 percent for women against 59 percent for men. This analysis reinforces the previous finding above (Table 2), where women fared worse than men in accessing formal finance. Why this occurs is again an intriguing question given the gender parity in education which Sri Lanka enjoys. This calls for further analysis, as studies by Lusardi & Mitchell (2009) and Christelis et al. 2010 have shown that sometimes what matters here is ‘what’ subjects were studied by women including their level of ‘financial literacy’, and the ‘teachable moments’²⁷ they experienced. At the same time, supply side effects such as product design or delivery issues with respect to women customers need to be considered.

While the relationship between age and use of informal finance is not significant, we observe that those in the oldest age group are less likely to save overall. Given the country’s challenging demographic transition towards a more aging population with more women, as well as women’s greater longevity compared to men – low access to old age savings could become a problem²⁸ specific to Sri Lankan women.

The results validate that when it comes to education, the trend remains the same. Table 3 shows how the progressively more educated are increasingly more likely to refrain from informal finance. Those in formal employment are increasingly more likely not to access informal savings and credit.

²⁷ Kaiser and Menkoff (2017).

²⁸ Sri Lanka Development Update World Bank (February 2019).

Thus, when analyzing determinants of informal finance, we find that gender, education and formal employment play a significant role. Given the widespread reach of self-help groups, particularly at the grassroot levels through agencies like cooperatives, where women are the main participants, our results confirm the popularity of informal finance in this demographic (of women, those informally employed, and those with lower levels of education).

5. Conclusions

This paper analyzes the status and determinants of financial inclusion in Sri Lanka, with the objective of understanding its implications for inclusive growth.

We present data both from a comparative peer analysis using the Global Findex 2017, as well as country data from the 2018 National Financial Inclusion Survey. It is seen that gaps remain, particularly in the ‘use’ of formal financial services rather than just having access to the same. While Sri Lanka is ahead of its regional peers in terms of basic financial inclusion measured via access to a formal account and having formal savings, it lags its more aspirational upper middle-income peers in East Asia. Similarly, for credit and usage of digital finance, there is much room for the country to improve and thereby match its East Asian peers.

Given the implications of financial inclusion as an enabler for inclusive growth, understanding the determinants of financial inclusion for Sri Lanka is important. Our results indicate that being a male, being more educated and (possibly therefore) being formally employed increase a person’s access to, and usage of, formal finance. Thus, the gender gap is evident in financial inclusion. In a country where 52 percent of the population comprise women, combined with the demographic transition towards an increasing elderly population with higher longevity for women, the findings imply that urgent and targeted action is necessary for the financial inclusion of women and making them part of the economy.

Our analysis indicates the crucial role played by education in determining formal financial inclusion. While Sri Lanka has a high literacy rate with gender parity at all levels of education, the

high level of financial informality indicates perhaps a low level of financial literacy. This requires further analysis to determine the type of targeted action required to improve financial literacy. Such action would be of more benefit for women, who seem to access more informal finance.

Digital financial services can be a powerful tool for inclusive finance. However, we see the strong influence of generational effects, resulting in low usage of such services in Sri Lanka. Again, leveraging the high level of literacy in the country, there is potential to explore avenues to increase usage, either through better digital financial literacy, simpler products, or through better targeting.

Our insights also point to the strong prevalence of financial dualism in the country, where gender plays a significant role – women tend to access informal sources of savings and borrowing more than men. Education presents a significant determinant for not using informal sources, though therein lies a paradox – Sri Lanka has achieved gender parity in education, yet Sri Lankan women still rely more on informal finance compared to their male counterparts. While this may be attributed to a possibly low level of financial literacy among women compared to men, or non-quantifiable factors such as culture and tradition, this paradox merits further analysis and research, in a context where sustaining inclusive growth would rely to an extent on female labor participation supported by more inclusive finance for women.

Looking forward, Sri Lanka has embarked on its first National Financial Inclusion Strategy, which considers key areas of focus to strategically improve financial inclusion. Such forward focused policies are essential to address the financial inclusion gaps identified. This can contribute to a more focused approach to leveraging financial inclusion for inclusive growth in the country.

Complementing such policy, our findings are of particular interest in designing targeted action to improve formal financial inclusion in Sri Lanka, and identifying its determinants, so that more Sri Lankans can benefit from the safety and security of formal finance and better financial capability, with the ultimate goal of sustaining inclusive growth for the country's individuals and businesses.

APPENDIX

Table A.1

Description of the endogenous variables:

Endogenous variable	Description	Reference population from the sample /Number of respondents
Formal Account	Individuals replying in the affirmative when asked whether they have an account at an institution regulated by the Central Bank of Sri Lanka.	All respondents (4,791)
Formal Savings	Individuals replying in the affirmative when asked whether they save at a formal financial institution.	The persons who saved or put money aside during the last 12 months (2,179)
Formal Credit	Individuals replying in the affirmative when asked whether they have a loan from a formal financial institution.	The persons currently having loans from any source (2,268)
Digital Cards	Individuals replying in the affirmative when asked whether they use a credit or debit card at a merchant or ATM.	Those who had bank accounts (4,251)
Informal Savings	Individuals replying in the affirmative when asked whether they save at an informal financial institution.	The persons who saved or put money aside during the last 12 months (2,179)
Informal Credit	Individuals replying in the affirmative when asked whether they have a loan from an informal financial institution.	The persons currently having loans from any source (2,268)
Saved in the past 12 months	Individuals replying in the affirmative when asked whether they save at any financial institution.	All respondents (4,791)
Borrowed in the past 12 months	Individuals replying in the affirmative when asked whether they have a loan from any financial institution.	All respondents (4,791)

Table A.2

Financial inclusion among various demographic groups:

Demographic group	Financially included		Surveyed Population	
	Saved	Borrowed		
Age group	18-34	644	639	1,229
	35-54	988	1,243	2,233
	55-64	329	303	796
	65 & above	198	101	533
Location	Rural	1824	1,883	3,923
	Urban	334	403	868
Gender	Male	907	963	2,111

	Female	1251	1,323	2,680
Education	Primary or less	564	656	1,582
	Secondary	1474	1,501	3,021
	Higher	120	129	188
Employment	Formal Employed	892	956	1,753
	Not formally employed including those inactive	1,266	1,331	3,038

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