

## **FINANCIAL INCLUSION, POVERTY, AND INCOME INEQUALITY IN SRI LANKA**

Madukala J.I.<sup>1</sup> and Silva M.S.T.<sup>2</sup>

### **Abstract**

This study looked at the impact of financial inclusion in the alleviation of poverty and income inequality in Sri Lanka. The study is quantitative and secondary and a time series analysis was performed. According to the calculated average financial inclusion index, Sri Lanka is experiencing a trend in financial inclusion. So that it has uplifted its position as a country with a medium level of financial inclusion. The multiple regression analysis was conducted to identify the impact of financial inclusion on poverty and income inequality. While there is a negative significant relationship between financial inclusion and poverty, financial inclusion is positively related to income inequality. Further, it highlighted certain complementary considerations that are required to be implemented with the promotion of financial inclusion going beyond the traditional facets to reduce poverty and income inequality in the nation. Therefore, the conclusion highlights the disparities that exist in Sri Lanka: especially concerning gender, age, and spatial disparities.

*Keywords:* Financial Inclusion, Financial Inclusion Index, Income Inequality, Poverty

---

<sup>1</sup> Senior Lecturer, Department of Business Economics, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka. \*Corresponding author. Email: [madukala@sjp.ac.lk](mailto:madukala@sjp.ac.lk)

<sup>2</sup> Colombo, Sri Lanka. Email: [tharaka.mssilva@gmail.com](mailto:tharaka.mssilva@gmail.com)

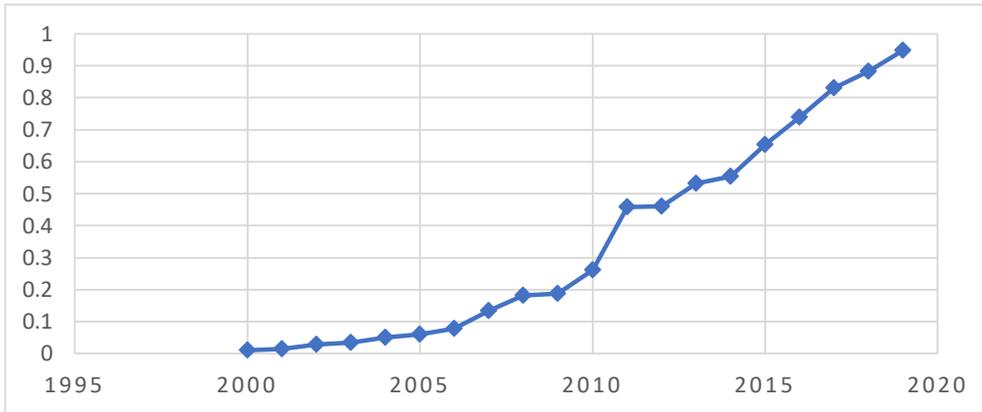
## **1. Introduction**

Financial inclusion is a major determinant of the financial and economic development of a country. Many scholars suggested that financial inclusion plays a significant role in reducing poverty and income inequality in many countries. (Inoue,2018; Omar and Inaba, 2020; Dogyan, Madaleno and Taskin, 2021; Churchill and Marisetty, 2020; Demir et al).

Financial inclusion added to the agenda of global reform while obtaining the considerable attention of many parties due to its capability or potential to break the vicious cycle of poverty and ensure lower income inequality. In the practical world, many financial systems are far away from inclusiveness, and as a result, more studies were conducted to stress the potential of financial inclusion in accelerating inclusive development in the countries. Bandara (2011) mentioned that financial education is informal and lags behind innovations and new products in many countries. Recent studies also mentioned that there is an insignificant concern on the role of financial inclusion in some countries (Ajide 2019; Emara and Mohieldin 2020; Mahalika, Matsebula and Yu 2021) Hence, sufficient focus should be given to improving financial inclusion, particularly regarding the cost and quality of financial services provided and financial institutions' sustainability and growth.

According to the World Bank (2017), adults who do not have access to formal financial services were estimated to be 2 billion while fifty per cent of it is relevant to Asian countries. Limited access to finance is a key difficulty in doing some major economic activities in the nation. Omar and Inaba (2020) stated that member countries of the United Nations have considered financial inclusion as a formal target and the main objective is the development agenda. Kenya, Malaysia, Peru and Thailand were the benchmarking countries that have inclusive access to the financial services in Asia. According to the Consumer Finance Survey (2011), the spearheading nation in obtaining a speedy increment in financial inclusion is the Philippines. Asian Development Bank (2014) pointed out that, 72.7% of people in the Philippines possessed bank accounts at formal financial institutions, 19.4% of people obtained a loan from financial institutions, 8.6% of people did transactions via electronic payments and 43.1% of the people received debit cards. Demirguc-Kunt et al. (2018), mentioned that 4.2% of elderly people obtained a mobile currency account, 17.2% had savings and 6.6% of South Asians obtained loans from a financial institution. Sri Lanka is in a good position with the highest 68% of adults holding accounts at formal financial institutions.

**Figure 1: Financial inclusion trend for Sri Lanka, (financial inclusion index) 2000-2019**



Source: Compiled by the author based on the data from World Bank Group, 2020

Figure 1 depicts that Sri Lanka has experienced an increasing trend in financial inclusion. Additionally, the average financial inclusion index was calculated to rank and identify the position of Sri Lanka. According to the figure, the financial inclusion index increased sharply from 2000 to 2019.

In developing nations, the rapid population growth caused an increase in poverty and income inequality. Hussen (2004) pointed out that, though nations have implemented a variety of strategies to alleviate poverty and income distribution disparities, those were not successful at the expected level. However, financial inclusion provided a significant contribution to facing the challenge of poverty and income inequality. Hence, numerous countries accepted financial inclusion due to an obvious nexus between financial inclusion, poverty, and income inequality. Sri Lanka also has identified financial inclusion as a prominent one in achieving sustainable development. Sri Lanka mainly focuses on providing formal access to financial institutions and services to rural communities. According to the Central Bank of Sri Lanka (2019), there are some challenges such as inadequate financial literacy, insufficient financial awareness, and lower preference for financial institutions to open branches in remote areas. Those factors adversely affect the process of overcoming the issues related to poverty and income inequality in Sri Lanka. Therefore, This study aimed to analyze the impact of financial inclusion on poverty alleviation and income inequality in Sri Lanka. In addition to that, the study attempted to identify the necessity of expanding financial inclusion within the nation in the process of achieving sustainable and inclusive economic development.

## **2. Literature Review**

### **Theoretical literature**

According to the definition given by scholars, financial inclusion is the process of offering convenient, reasonable and equal access to proper and formal financial products and services that are essentially needed by low income earning communities. (Joshi, 2011; Settle 2020; Chen and Yuan, 2021; Dogan, Madaleno and Taskin, 2022; Cicchiello, et al,2021). Pearce (2011) mentioned that financial inclusion can be gained in different ways such as by giving people access to various financial services including credit schemes, bank accounts, deposits and payments, insurance services and pensions etc. According to the definition given by Heenkenda (2014), financial inclusion reflects the capability of individuals and different groups to get access to and utilize proper financial services provided by different service providers. The contradictory concept of financial inclusion is financial exclusion. Assibey (2009) defined that the financial exclusion reflects the developments that avoid the poor community from receiving entry to the mainstream financial system. There are two divisions of financial exclusion named voluntary and nonvoluntary exclusion. Williams, Adegoke and Dare (2017) explained the difference between these two. Voluntary exclusion is a situation in which some of the population of a nation decide not to use financial services based on cultural or religious factors. Involuntary exclusion is caused by inadequate income and high-risk profile or due to discrimination, market letdowns and limitations.

The theory of change can be used to explain the way financial inclusion projects aim to generate expected favourable changes for the population while explaining the immediate and transformative implications of those projects. Theoretically, financial inclusion creates advantages for poor people by changing their financial behaviour of them. Those people could utilize financial services to generate new income sources or expand the existing sources. Secondly, poor people use financial services to invest in assets rather than spending or losing money while consuming more goods sustainably or to deal with shocks. According to the theory of change, if poor people have access to proper financial services, people might use credit facilities to expand profitable businesses or to get access to new income-generating activities. Indirectly, new employment opportunities are increasing when expanding business opportunities. As a consequence, the consumption and savings patterns of poor people also change positively. Finally, with sustainable consumption, more assets and wealth for poor people lead to reduce poverty and income inequality. (Duvendack and Mader (2019)

### **Financial inclusion and poverty**

As the world bank suggests financial inclusion is a great measure to reduce poverty and boost economic prosperity. Anwar et al. (2016) justified that, poverty causes many social and economic issues worldwide, so several nations have taken a variety of measures to get rid of this issue. On one hand, according to the World Bank (2017), poverty is not only the lack of money but also is multidimensional such as people's inability to involve in recreational activities. On the other hand, in many studies such as Balakrishnan, Steinberg & Syed (2013), poverty is defined as the inadequate

capacity to fulfil basic needs and wants. Financial inclusion plays a significant role in reducing the poverty level in different countries. (Bettin and Pigini, 2022; Lal 2017; Mahalika, Matsebula and Yu, 2021; Emara, 2020; Kelimume, 2020; Agyemang-Badu, Agyei & Kwaku, 2018). Ajide (2019) explained that Small and Medium entrepreneurs in Africa have greater access to the financial market, resulting in high investment and employment opportunities. Consequently, the level of poverty is reduced by increasing per capita consumption in the nation. Mahmood, Shuhui and Aslam (2022) stated that financial inclusion leads to reducing poverty by enhancing the Household's disposable income. Mahalika, Matsebula and Yu (2021) mentioned that Poverty in rural areas can be lowered by boosting financial inclusion. The next important thing is to identify the way of enhancing financial inclusion. As explained by Heenkenda (2014) even though the financial sector of the country is stable and strong, the commitment toward expanding financial inclusion becomes still uncertain. Some previous studies highlighted that financial inclusion is enhanced by providing access to wireless internet and other electronic devices while supplying secure online financial products. (Mahalika, Matsebula and Yu, 2021; Lal, 2017; Kelimume 2020). Demircuc-Kunt et al. (2018), highlighted that, even though financial inclusion is a tough and critical process, if successful it is a better way to eradicate poverty.

In the Asian region, poverty and income inequality can be considered persistent issues in the past. Some economies in the Asian region have experienced a rapid economic expansion, but the inclusiveness of this growth has become questionable. Park and Mercado (2015a) justified that it is imperative to increase the poor's access to different kinds of financial services, through financial inclusion in Asia. South Asian countries have reported strong economic growth over a long period, but poverty and income inequality has made a greater impact on slowing down the economic growth rate.

### **Financial inclusion and income inequality**

Even though income inequality has a separate meaning, there is an interrelationship between poverty and inequality. Anwar, Amir & Zaman (2018) defined income inequality as a measurement to examine the discrepancies in the distribution of income among households. Some previous studies highlighted that financial inclusion not only eliminates poverty but also reduces income inequality in an economy (Inoue, 2018; Tang, Rubab and Wen, 2019; Amidu et al, 2021; Demir et al, 2022, Mahalika, Matsebula and Yu 2021; Agyemang-Badu, Agyei & Kwaku, 2018). According to Demir (2022), the impact of financial inclusion on the level of income distribution varies by financial inclusion dimensions and by the type of financial service. Sethy and Acharya (2017) stated that by understanding the implications of financial inclusion, policymakers implement different programmes to greater access to financial services while reducing income inequality. Omar and Inaba (2020) stated that financial inclusion causes to improve efficiency and provides quality financial services for the poor people. Consequently, it reduces the income inequality of the nation. Dogan Madaleno and Taskin (2022) pointed out that financial inclusion will reduce poverty by giving facilities to increase expenditure on health.

## **Methodological Literature**

### **Other determinants of poverty and inequality**

The next important thing is to identify the other determinants of poverty and income inequality for analysis. The study selected education, GNI per capita, population growth and private credit as the other explanatory variables. The same variables were used in different scholarly articles (Park and Mercado, 2015; Gregor and Gozgor, 2013).

Some scholars justified that as the education level increases, poverty and income inequality decrease significantly. According to Agyemang-Badu, Agyei & Kwaku (2018), there is a positive relationship between education and income inequality in Africa. Anwar, Amin and Zaman (2018) and Balakrishnan, Steinberg and Syed (2013) explained that the higher education level is negatively related to the level of poverty.

Population growth is a determinant of the poverty level. Timmer (1994) mentioned that as the population of a country increases the access to resources for individuals decreases leading to increase poverty. Ahlurg (1994) mentioned that population growth causes to decrease per capita income and finally it leads to increase the level of poverty. Odusola (2018) analysed the relationship between population growth and income inequality in Africa. Therefore this study selected population as one explanatory variable of poverty.

GNI per capita is another important determinant of poverty and income inequality. Hassan (2015) considered GDP as the determinant of income inequality and poverty in Nigeria. Odusola (2018) analysed the relationship between population growth and income inequality in Africa. Bottcher (2021) considered per capita GNI in the analysis of poverty and inequality. This study considered the same variable as an explanatory variable.

Another way of reducing poverty and income inequality is domestic private credit in a country. Haan, Pleninger and Sturm (2021), pointed out that, the ratio of private credit to GDP is negatively related to the level of poverty and income inequality. Goff and Singh (2014) mentioned that domestic private credit is an effective way of poverty and income inequality reduction in Africa. Abdin (2016) mentioned that the private credit ratio has a major impact on the poor by enhancing income. Hence, this research considered domestic private credit as another independent variable.

Although there are dynamic definitions for financial inclusion, existing literature lacks a standard method to measure financial inclusion. Hence, different scholars have derived different composite financial inclusion indices. (Honohan, 2007; Mialou and Amidzic, 2017; Caamara and Tuesta, 2014; Mukherjee, Mallik and Thakur, 2019)

This research aims to contribute to the literature on financial inclusion by providing insights for stakeholders of the financial sectors and development policymakers about the pertinent opportunities of financial inclusion. Further, this study contributes to the literature on poverty and income inequality by analysing the impact of financial inclusion on poverty and income inequality. There were insufficient studies to analyse the implications of financial inclusion in Sri Lanka.

Hence this study is important in filling this research gap. Moreover, this study has the potential to draw the attention of the dynamic and well established Non-Governmental Organizations (NGOs) who often take great efforts to launch many Corporate Social Responsibility (CSR) programs in the country.

### **3. Research Methodology**

#### **3.1 Research design**

The study was primarily a quantitative analysis that examined the link between financial inclusion, poverty, and income inequality. This followed a multiple regression framework. To analyze this relationship, first, the indicators were selected that were used to measure poverty, income inequality and financial inclusion. The poverty headcount ratio of the country is used to gather the annual data regarding prevailing poverty conditions while Gini coefficient was used to identify the status of income inequality.

#### **3.2 Data and data collection**

The time-series data were used which were extracted from the World Bank Report (2004 to 2019), the Annual reports of the Central Bank of Sri Lanka (2019), and the Labour Force Survey report (2019) of the Department of Census and Statistics of Sri Lanka. The derivation of the financial inclusion index was done by using the models specified in Sarma (2008). Annual data for all five dimensions was used to derive the financial inclusion index. All other dependent and independent variables used in the study were extracted from the annual publications of the World Bank Group from the years 2000 to 2019.

#### **3.3 Data analysis**

Firstly financial inclusion index was derived by taking five dimensions following the Sarma model. According to Sarma (2008) Sarma model is an attempt taken by the author to effectively combine different banking sector indicators that highlight the information of an inclusive financial system including the availability, accessibility and the usage of dynamic banking services. The inclusive financial index (IFI) under Sarma's model is derived in the same manner using the multidimensional approach of index construction and is similar to the creation of the Human Development Index (HDI) by the United Nations Development Index (UNDP).

#### **Financial inclusion index for sri lanka**

Five dimensions were used to indicate the level of financial inclusion in Sri Lanka. First two dimensions are Automated Teller Machines available for 100 000 adults and the number of branches of Commercial banks per 100 000 adults. According to the Agyemang-Badu, Agyei & Kwaku (2018), these two dimensions indicate the availability of financial services to the Sri Lankan community while the next three dimensions indicate the usage of financial/ banking services by the community and other their three dimensions are Commercial Bank borrowers per 1000 adults,

Commercial Bank depositors per 1000 adults and domestic credit to GDP ratio. The way of developing the financial inclusion index can be presented as follows.

$$dit = \frac{Ait - m}{Mit - m}$$

dit = dimension index

Ait = actual value of a given dimension for time t

m = minimum value of the dimension

Mit= maximum dimension value

The second step was the derivation of the financial inclusion index.

$$FIit = 1 - \frac{\sqrt{(1-d1)^2+(1-d2)^2+((1-d3)^2+(1-d4)^2+(1-d5)^2}}{\sqrt{n}}$$

FIit = financial inclusion index for time t

(1-dn)<sup>2</sup> = normalized inverse of euclidean distance of point di

n = Number of dimensions

The value of the financial inclusion index ranges from 0 to 1. As explained by Agyemang-Badu, Agyei & Kwaku (2018), when the index becomes 1 or if it comes closer to 1, the country is identified as one who enjoys a high level of financial inclusion while the zero or closeness to zero emphasizes lower financial inclusiveness.

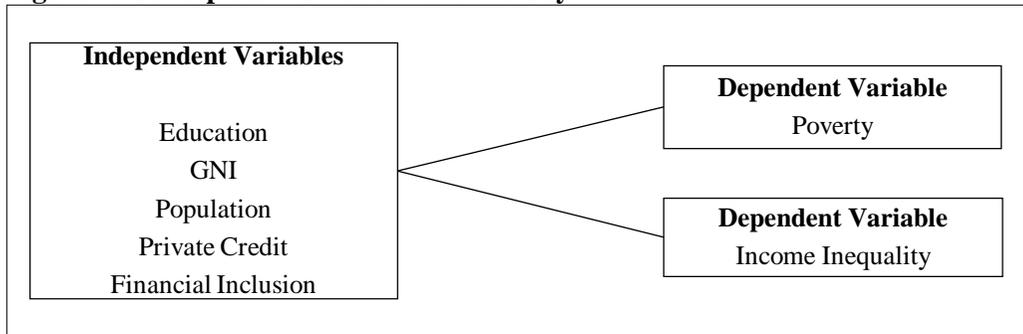
There are three categories of countries based on the financial inclusion index as follows.

- $0.5 < IFI \leq 1$  = Countries with *high financial inclusion*
- $0.3 \leq IFI < 0.5$  = Countries with *medium financial inclusion*
- $0 \leq IFI < 0.3$  = Countries with *low financial inclusion*

The study implemented statistical tests to ensure that the collected data are reliable. The two main tests were conducted to ensure that data are robust for the analysis. Two assumptions were made and statistical tests were conducted to check whether all the assumptions are met or not. The first one is the stationarity assumption/stationarity test which assumes that the data used for the time series analysis contains the mean, variance and the autocorrelation structure that do not fluctuate or simply change over time. The second one is the Normality assumption/ Jarque-Bera Test which assumes that all the residuals are normally distributed.

Finally, two multiple regression analyses were conducted to find the correlation between Financial Inclusion, Gross National Income per capita, growth rate of population, Education, Private credit granted by banks as a proportion of GDP and Poverty Head Count Ratio; Financial Inclusion, GNI per capita, growth rate of Population, Education, Private credit granted by banks as a proportion of GDP and Gini coefficient.

**Figure 2: Conceptual framework of the study**



Source: Compiled by authors

As illustrated in Figure 2, the study analyzed two endogenous variables separately through two distinct models. Firstly, the study aimed to analyze the determinants of poverty in Sri Lanka. The dependent variable is income inequality and measured by poverty headcount ratio. Secondly, it analyzed the determinants of income inequality of the nation and Income inequality is measured by Gini Coefficient. Independent variables of both models are education, GNI, Population, Private credit and financial inclusion.

The following regression equation is specified to identify the impact of financial inclusion on poverty.

$$POVHDI = \alpha_0 + \beta_1FI + \beta_2GNI + \beta_3POP + \beta_4EDU + \beta_5PCREDIT + u_i$$

POVHDI = Poverty headcount ratio

GNI= Gross National Income per capita

FI = Financial inclusion

POP= Population growth rate

EDU = Education

PCREDIT = Private credit supplied by banks as a ratio of GDP

The following regression equation is specified to identify the impact of financial inclusion on income inequality.

$$GINI = \alpha_0 + \beta_1FI + \beta_2GNI + \beta_3POP + \beta_4EDU + \beta_5PCREDIT + u_i$$

GINI = Gini coefficient

GNI= Gross National Income per capita

FI = Financial inclusion

POP= Population growth rate

EDU = Education

PCREDIT = Private credit supplied by banks as a ratio of GDP

#### 4. Analysis and Findings

The study was conducted in three phases. The first phase is the calculation of financial inclusion index for Sri Lanka. The second analysis is conducted to find whether financial inclusion has the capability in reducing the poverty level of Sri Lanka. The third phase includes the analysis which was done to figure out the ability of financial inclusion to reduce the income inequality issue in Sri Lanka.

#### 4.1 Financial inclusion index for Sri Lanka

**Table 1: Average Financial Inclusion Index for Sri Lanka, 2000 – 2019**

Year	Average Financial Inclusion Index	Level of financial Inclusion
2004 – 2013	0.29	Low financial inclusion
2000 - 2019	0.35	Medium financial inclusion

*Source:* Compiled by authors

According to table 1, the mean value of the financial inclusion in Sri Lanka between 2000 and 2019 could be identified as 0.354841 thus the nation can be categorized as a country with a medium level of financial inclusion. Even though Sri Lanka possesses a better rank for financial inclusion relative to other South Asian Countries, e-payments, insurance services, ATM facilities and mobile banking services are comparatively low.

#### 4.2 Descriptive statistical review for a robust data analysis

##### Unit root test

**Table 2: Summary of group unit root test at 5% level of significant**

Method	Statistic	Prob.**	Cross Sections	Obs
Null: Unit root (assume common unit root process)				
Levin, Lin & Chu t*	-5.8213	0.0000	7	20
Null: Unit root (assume common unit root process)				
Im, Pearsan and Shin W-stat	-6.2349	0.0000	7	20
ADF – Fisher Chi-square	47.8287	0.0000	7	20
PP – Fisher Chi- square	45.2783	0.0000	7	20

*Source:* Compiled by authors

The stationarity of the time series data was analyzed through the unit root test. The stationarity of the data set was tested for two data sets that were taken for two dependent variables: poverty and income inequality.

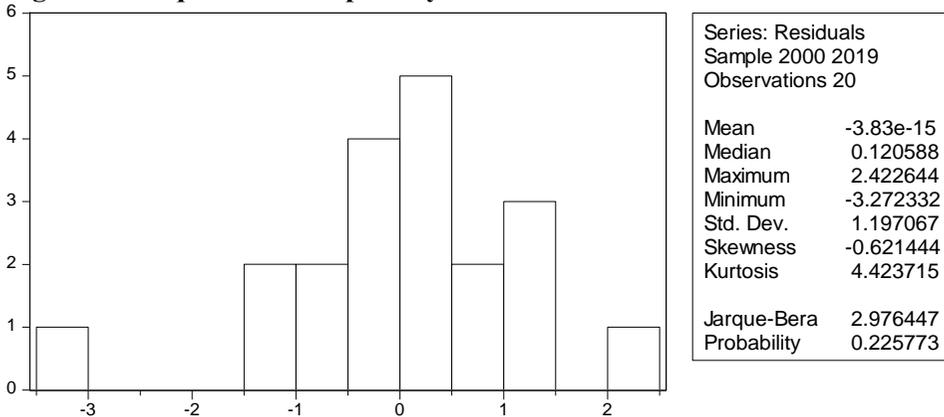
Table 2 explains the results of the unit root test conducted via E-views. The results of the unit root test are given as the data set composed of the Poverty Headcount ratio of Sri Lanka and the Gini Coefficient as the dependent variables. All variables were not integrated of order zero and therefore the difference stationary process was followed to make the variables stationary. After taking the first difference of the variables, the data set appeared to be stationary concluding that all variables are integrated of order 1. According to the ADF-Fisher, the Chi-square probability is less than 0.05 (5%), and the null hypothesis can be rejected stating that the data set is stationary.

**Jarque-Bera test for poverty**

To increase the value of the study while making effective insights from the gained results, the normality for both the data sets was conducted through the “Jarque-Bera Test.”

Figure 3 represents the results of the Jarque-Bera Test in the about data set which is composed of the Poverty Headcount ratio of Sri Lanka as the dependent variable. The residuals are normally distributed and as the Jarque-Bera probability is higher than the 0.05 (5%), the null hypothesis failed to be rejected stating the residuals of the data set are normally distributed.

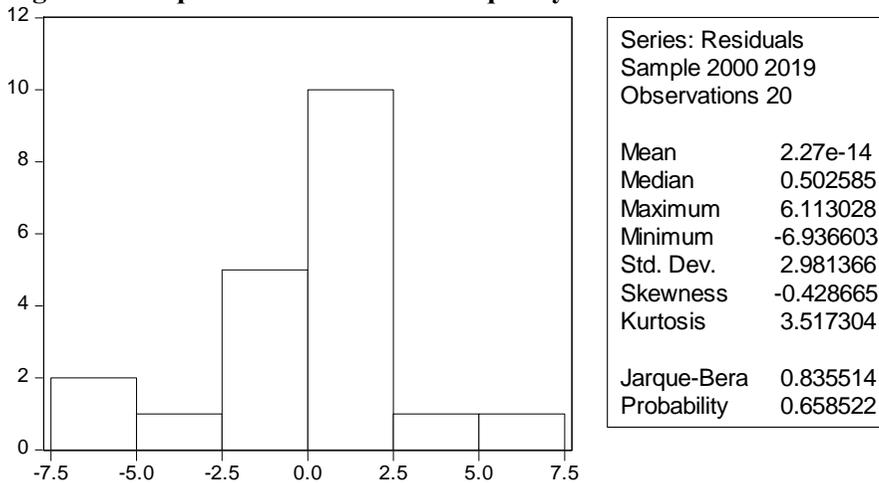
**Figure 3: Jarque-Bera test-poverty**



Source: Compiled by authors

The same analysis is done for the data set where the Gini coefficient was taken as the dependent variable that measures the income inequality of Sri Lanka.

**Figure 4: Jarque-Bera test-income inequality**



Source: Compiled by authors

The results of the Jarque-Bera test are given in the above data set which is composed of the Gini Coefficient of Sri Lanka as the dependent variable. As illustrated in figure 4, the residuals are normally distributed. The null hypothesis failed to be rejected stating the residuals of the data set are normally distributed due to the Jarque-Bera probability being higher than 0.05 (5%).

### **4.3 Inferential statistical data analysis**

The key objective of the study was to identify whether financial inclusion has the capability in playing a vital role as a strong mechanism to eradicate poverty and reduce income inequality in Sri Lanka. To achieve key objectives the inferential statistical analysis was conducted via E-views after running a simple regression analysis. This section is divided into two parts. The first part discusses the results gained to make conclusions about the impact of financial inclusion in eradicating poverty. The next part is allocated to discuss the impact of financial inclusion on income inequality reduction in Sri Lanka.

Poverty can be identified as a stubborn challenge in Sri Lanka where most of the mechanisms were not pro-poor to eradicate poverty from the country. However, to reach sustainable development, zero poverty has become a crucial and essential goal for Sri Lanka as per Sustainable Development Agenda 2030 (Kelegama 2014). Hence, the hypotheses were tested using the simple linear regression analysis and gained the following results to make the conclusions of the study and to forward the findings of the study to enhance the financial inclusion of the country and then uplift the living standards of the people.

**Table 3: Impact of financial inclusion on poverty**

Variables	
Financial Inclusion	-34.9391*** (-4.5581)
GNI	0.0001 (0.0896)
Population	0.8100 (0.4737)
Education	0.2674** (2.7509)
Private Credit	0.5703*** (5.1175)
Constant	-23.2828* (-1.9215)
Observations	20
R-squared	0.9795
Adjusted R-squared	0.9721
Log likelihood	-31.4633

Notes: \*\*\*p<0.01, \*\*p,0.05, \*p<0.1

According to Table 03, 98% of the R-square value emphasizes a better fit for the model. It highlights that 98% of the variation in the Povert is explained by the linear model. Going beyond that, the high adjusted R-Square value (97%) of the

model and the closeness of it to the R-square value further concludes the overall fitness of the model. The overall significance of the model ensures that the model has provided a better fit to the data. This is evaluated through the F-statistic. With the high F-statistic and lesser P-value which is smaller than the 0.05 (5%), the overall model is significant and provides effective results that are reliable and valid. When considering the individual significance of variables, financial inclusion and private credit to domestic are significant at a 1% level of significance while education is significant at a 5% level of significance. GNI and population are not significant at any level.

As financial inclusion is negatively related to poverty, the actions taken to improve financial inclusion will better support the eradication of poverty from the country. Many factors can be identified as contributors to the income inequality issue in Sri Lanka. Even though the strategies have been made so far, the nation can address the poverty level, income inequality is an unchanged issue for the country. 20% of the country who are composed of a high living standard are enjoying more than half of the total household income of the country while the poorest 20% is only getting 5% of the total household income. Hence, as the essential mechanism is to reduce the income inequality in Sri Lanka, the study focused to identify whether financial inclusion can reduce the income inequality in the country.

**Table 4: Impact of financial inclusion on income inequality**

Variables	
Financial Inclusion	45.4979** (2.9082)
GNI	-0.0126*** (-3.0054)
Population	-11.7201** (-2.7520)
Education	0.4796* (-1.9811)
Private Credit	0.6079** (2.1903)
Constant	87.7667** (2.9082)
Observations	20
R-squared	0.7582
Adjusted R-squared	0.6719
Log likelihood	-49.7135

Notes: \*\*\*p<0.01, \*\*p,0.05, \*p<0.1

According to Table 7, the high R-square value of 76% emphasizes a better fit for the model. It highlights that 76% of the variation of the income inequality is expressed in the linear model. Going beyond that, the high adjusted R-Square value (67%) of the model further concludes the overall fitness of the model. The overall significance of the model ensures that the model provided a better fit to the data. This is evaluated through the F-statistic. With the high F-statistic and lesser P-value which is smaller than the 0.05 (5%), the overall model is significant and provides effective

results that are reliable and valid. When considering the individual significance of variables, financial inclusion is significant positively at a 5% level of significance. Population and private credit to domestic also are significant at a 5% level of significance while GNI is significant at a 1% level of significance. Education is significant at a 10% level of significance.

According to the model, the improvement of financial inclusion will increase the income inequality problem in the country. Therefore, the actions taken to improve financial inclusion will greatly contribute to alleviating poverty in the country while it is not a better strategy for reducing the income inequality in Sri Lanka. Hence, it is important to look for complementary actions that needed to be taken with the improvement of financial inclusion promotion to eradicate and reduce both income inequality and poverty.

## **5. Conclusion**

Financial inclusion can be highlighted as the best and novel strategy to reduce poverty in Sri Lanka because financial inclusion is strongly correlated with poverty. Previous scholars also found that financial inclusion is an effective way of reducing poverty (Lal, 2017; Emara, 2020). According to Kelikume (2020), there is a significant positive relationship between financial inclusion and poverty In Africa. Omar and Inaba, (2020) showcased the same results highlighting the fact that Financial Inclusion acts as a vital factor that is more beneficial in eliminating poverty bringing advantages to the disadvantaged communities in developing countries like Sri Lanka. However, according to the analysis, there is no capability of lowering income inequality by financial inclusion in Sri Lanka. Balakrishnan, Steinberg and Syed (2013) also justified that even though financial inclusion contributes to reducing poverty reduction, in recent decades income inequality is increased in Asian countries. Thus, it is essential to implement some complementary actions to enhance financial inclusion to address income inequality. The country should focus on the specific dimensions that have been taken to derive the financial inclusion index and pay attention to improving and promoting each dimension in the Sri Lankan context to ensure that the community has better access to financial services.

On one hand, the ATM networks of the country should be expanded covering all the places. Some countries have implemented ATMs that are utilizable by people with special needs. According to Ahli Bank Qatar (2017), the differently-abled communities do not need to be marginalized when it comes to the fulfilment of their financial requirements. The next important thing is to expand the commercial bank branches in the country to fulfil the customized financial needs of the different communities. Moreover, the other ways of enhancing financial inclusion are increasing the number of borrowers and depositors with commercial banks, and increasing the domestic credit to GDP ratio.

## **Implications**

Finally, the study recommends main two suggestions to enhance financial access in Sri Lanka. In the country, the majority of ATMs are implemented within the commercial bank branches and there is a lack of offsite ATMs. Moreover, assistance needs to be provided for the people with difficulties operating the ATMs. The second

one is making financial services affordable, flexible, and simple. Simplifying the documentation process needed to be done when taking loans and introducing instant credit service even through the newest systems such as e-loans are important. Diversifying the promotional means is also critical while the basic financial services needed to be provided at an affordable and low bank charge. Policy considerations should be focused on enhancing the required infrastructure to deliver effective financial services to reduce the level of income inequality in Sri Lanka. As the financial inclusion index is better in Sri Lanka, use its services efficiently especially focusing on the income distribution of the nation. It is significant to extend the analysis to identify the way of enhancing financial access and the way of reducing income inequality using the prevailing financial facilities in Sri Lanka. Then it is important to conduct continuous market research to identify the growth and timely financial needs of the clients and taking necessary actions to promote appropriate, customized and small-scale financial services Are necessary.

## **References**

- Abdin, J. (2016). Financial development and poverty reduction: exploring the links between the issues using evidence from Bangladesh.
- Agyemang-Badu, A.A., Agyei, K. & Kwaku, E. (2018). Financial inclusion, poverty and income inequality: evidence from Africa. *Spiritan International Journal of Poverty Studies*, 2(2), 1-38.
- Ahlburg, D. A. (1994). Population growth and Poverty, 219-258.
- Ahli Bank Qatar (2019). Annual Report 2019 Over Three Decades of Stability & Trust.
- Ajide, F.M. (2019). Financial inclusion in Africa: does it promote entrepreneurship?, *Journal of Financial Economic Policy*, 12(4), 687-706.
- Amidu, M., Yindenaba, A., Coffie, W. & Akakpo, A.A. (2021). Financial inclusion, livelihood Activities, and stock Market participation, *Global Journal of Emerging Market Economies*, 7(1), 23-61.
- Anwar, A., Amir, M. & Amin, W.(2018). The relationship between poverty, income inequality and unemployment : Evidence from ARDL and bound testing approach, *European online journal of natural and social sciences*, 1(1), 42–53.
- Anwar, A., Uppun, P., Tri, I. & Reviani, (2016). The role of financial inclusion to poverty reduction in Indonesia, *Journal of business and management (IOSR-JBM)*, 18(6), 37–39.
- Asian Development Bank, (2014). *Financial inclusion in Asia: country surveys*.
- Balakrishnan, R., Steinberg, C. & Syed, M.H. (2013). The elusive quest for inclusive growth: Growth, poverty, and inequality in Asia, *IMF Working Papers*, 13(152), 1.
- Bandara, H.M.H. (2011). Financial inclusion for integrated development, 99–114.
- Bettin, G., Pigni, C. & Zazzaro, A. (2022). Lifting you up or dragging you down? the role of financial inclusion in poverty transitions among Italian households, *The Review of Income and Wealth*.

- Cáamara, N. & Tuesta, D. (2014). Measuring financial inclusion: a multidimensional index, *BBVA Research Working Paper*, 14(6), 1–40.
- Central Bank of Sri Lanka (2013). *Central Bank Report*.
- Central Bank of Sri Lanka, (2019). Roadmap for sustainable finance in Sri Lanka, 29.
- Cicciello, A. F., Kazemikhasragh, A., Monferra, S. & Giron, A. (2021). Financial inclusion and development in the least developed countries in Asia and Africa, *Journal of Innovation and Entrepreneurship*, 10(46).
- Chen, W. & Yuan, X. (2021). Financial inclusion in China: an overview, *Frontiers of Business Research in China*, 15(4).
- Churchill, A & Marisetty, V. B. (2020). Financial inclusion and poverty: a tale of forty-five thousand households, *Applied Economics*, 52(16), 1777-1788.
- Demiurgic-Kunt, A., Klapper, L., Singer, D., Ansar, S. & Hess, J. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*.
- Demir, A., Pesque-Cela, V., Altunbas, Y., & Murinde, V. (2022). Fintech, financial inclusion and income inequality: a quantile regression approach, *The European Journal of Finance*, 28(1), 68-107.
- Department of Census and Statistics (2019). Computer literacy statistics 2019 (annual), 2012–2015.
- Dogan, E., Madaleno, M. & Taskin, D. (2022). Financial inclusion and poverty: evidence from Turkish household survey data, *Applied Economics*, 54(19), 2135-2147.
- Duvendack, M., Mader, P. (2019). Impact of financial inclusion in low-and middle-income countries: A systematic review of reviews.
- Emara, N., Mohieldin. (2020). Financial inclusion and extreme poverty in the MENA region: a gap analysis approach, *Review of Economics and Political Science*, 5(3), 207-230.
- Gozgor, G. & Gozgor, K. (2013). The relationship between domestic credit and income: evidence from Latin America, *Applied Econometrics and International Development*, 13(1).
- Haan, J., Pleninger, R. & Sturm, J. (2021). Does financial development reduce the poverty gap?, *Social Indicators Research*, 161(1), 1-27.
- Hassan, O. M. (2015). The impact of the growth rate of the gross domestic product (GDP) on poverty reduction in Nigeria, *Journal of Emerging Trends in Economics and Management Science*, 6(3).
- Heenkenda, S. (2014). Inequalities in the financial inclusion in Sri Lanka: An assessment of the functional financial literacy, *GSID Discussion Paper*, 194, 1–37.
- Honohan, P. (2007), Cross-Country Variation in Household Access To Financial Services, *Journal of Banking and Finance*, 32, 2493, 500.
- Hussen (2004) *Principles of Environmental Economics* 2nd and, Michigan.
- Inoue, T. (2018). Financial inclusion and poverty reduction in India, *Journal of Financial Economic Policy*, 11(1), 21-33.
- Kelegama, S. (2014). Financial Inclusion in Sri Lanka: Issues and Challenges, *Seminar of the Association of Professional Bankers - Sri Lanka*, 40.

- Kelikume, I. (2020). Digital financial inclusion, informal economy and poverty reduction in Africa, *Journal of Enterprising Communities: People and Places in the Global Economy*, 15(4), 626-640.
- Lal, T. (2017). Impact of financial inclusion on poverty alleviation through cooperative banks, *International Journal of Social Economics*, 45(5), 808-828.
- Mahalika, R., Matsebula, V., Yu, D. (2021). Investigating the relationship between financial inclusion and poverty in South Africa, *Development Southern Africa*.
- Mahmood, S., Shuhui, W., Aslam. (2022). The financial inclusion development and its impacts on disposable income, 1-19.
- Mukherjee, S., Mallik, S.S. & Thakur, D. (2019). Tracking Financial Inclusion in India: A Study of SHG Initiatives, *Indian Journal of Human Development*, 13(1), 32-46.
- Oduola, A., Mugisha, F., Workie, Y. & Reeves, W. (2017). Income inequality and population growth in Africa.
- Omar, M.A. & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis, *Journal of Economic Structures*, 9(1).
- Osei-Assibey, E. (2009). Financial exclusion: What drives supply and demand for basic financial services in Ghana?, *Savings and Development*, 33(3), 207-238.
- Pant Joshi, D. (2011). Financial Inclusion & Financial Literacy, *BI OECD SEMINAR – Roundtable on the updates on Financial education and Inclusion programmes in India*, 1-11.
- Park, C-Y. & Mercado, R.J. (2015a). Financial inclusion, poverty, and income inequality in developing Asia, *SSRN Electronic Journal*.
- Pearce, D. (2011). Financial Inclusion in the Middle East and North Africa: Analysis and roadmap recommendations, *Policy research working paper 5610*, 1-44.
- Sethy, D., Acharya, D. (2017). Financial inclusion and economic growth linkage: some cross country evidence, *Journal of Financial Economic Policy*, 10(3), 369-385.
- Settle, A. (2020). The financial inclusion agenda: for poverty alleviation or monetary control?, *Review of International Political Economy*.
- The World Bank Group (2020). 'World Bank Data.
- Timmer, C.P. (1994). Population, poverty, and policies, *The American Economic Review*, 84(2), 261-265.
- Williams, H.T., Adegoke, A.J. & Dare. (2017). Role of Financial Inclusion in Economic Growth and Poverty Reduction in a Developing Economy, *Internal Journal of Research in Economics and Social Sciences (IJRESS)*, 22(1), 19-56.
- World Bank (2017). *Global financial inclusion and consumer protection survey*.