Homegrown Finance:
Tracing Intergenerational Financial Literacy in Indonesia

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This paper is the beginning of my proof of love for the world of financial literacy.
Financial literacy, which I unintentionally applied in my daily life since 2014, when I was in the second year of high school, at the green building of a pawnshop named "PT. Pegadaian", where I first do a self-learning about a financial product called "*gold savings*".
By 2017 I was able to share a little knowledge about financial literacy with the community. In 2019 representing the Central Bank of Indonesia through GENBI UI, I had the opportunity to attend my first financial literacy and inclusion conference in South Africa, organized by the OECD. In 2024, I dedicate my time to writing about financial literacy, to complete my desire of this knowledge.

I thank to my God Father, Jesus, and the Holy Spirit.
When this world says it is impossible, You gave me strength to face anything.

"You call me strong and courageous,
When I do not feel like I am.
You could have turned me away,
But You choose me instead.

You say that I am gonna make it.
When I do not feel like I can.
You see the ***battle*** *I'm facing,*
And You are stepping in.

You are in it with me.
You are working through me, fighting for me.
God is not against me." – Brandon Lake

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"Mba Can, di usia kamu ke-25, kamu udah master?
Terimakasih sudah berjuang dan bertahan! Aku bangga!"
#MentalHealthMatters #Pure-ADHD-ers

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List of Acronyms

BPS	*Badan Pusat Statistik* (Indonesian Statistic Bureau)
CHD	Children
DIY	*Daerah Istimewa Yogyakarta*
FLIX	Financial Literacy Index
FTH	Father
GLS	Generalized Least Order
HDI	Human Development Index
IFLS	Indonesia Family Life Survey
MAS	Monetary Authority of Singapore
MTH	Mother
OECD	The Organisation for Economic Development
OJK	*Otoritas Jasa Keuangan* (Indonesian Financial Service Authority)
SNLKI	*Survey Nasional Literasi Keuangan Indonesia* (Indonesian National Financial Literacy Survey)
WB	World Bank
WHO	World Health Organization
YLKI	*Yayasan Lembaga Konsumen Indonesia* (Consumer Association in Indonesia)

Abstract

This study is the first study related to the intergenerational transmission of financial literacy in Indonesia. Examining the financial literacy skills of fathers and mothers as the first generation influences the second-generation, children. Using longitudinal data from the Indonesian Family Life Survey (IFLS) wave 4 (2007) and wave 5 (2014), with a fixed effect model, the results of the study indicate that there is a relationship between parents and children. Mothers influence children's literacy skills more directly than fathers, who have an indirect effect through their profession and income. Financial activities carried out by mothers at home, including budgeting and managing expenses, affect children's financial skills. The relationship between parents and children is not always positive; several variables are negatively related to children's financial literacy development. Some levels of parental formal education show a negative relationship because they are associated with generational disparities in general and specifically in finance. This study also shows the importance of human capital development within the family framework. The results of this study suggest financial literacy should not be focused on being taught in formal education alone but can involve a communal way through family as the social institutions. Empowering parents, especially mothers, in financial literacy can enhance intergenerational transmission and strengthen homegrown finance resilience. In a family way, it will facilitate the passing down of the capability from generation to generation. This will be a significant implication for policies aimed at education and employment with family-oriented financial literacy initiatives.

Relevance to Development Studies

Financial literacy is the ability to read finance-related information and the unity of knowledge, skills, attitude, and behavior. As a life skill created by habit, financial literacy becomes one of the indicators of human development. This study relates to development studies by showing how improving financial literacy within families, from individual development to communal development, impacts society. The concept of homegrown finance offers a culturally relevant way to build a robust local economy. This study is also essential for implications for policy making, which makes family-centered financial education for sustainable development and long-term financial resilience.

Keywords

Education, Financial Literacy; IFLS; Longitudinal Data; Parental Influence.

JEL Classification

D14, I22, O15.

Chapter 1
Introduction

1.1 Background of The Study

Financial literacy is an essential element in economic development at the individual and societal levels. This concept covers the attitudes, behavior, knowledge and basic skills needed to make informed financial decisions regarding budgeting, savings, investment and wealth risk management (Lusardi & Mitchell 2011; 2014; 2023). Individuals who are categorized as financially literate tend to manage their money better. This can be seen in how individuals make smarter long-term financial decisions, impacting financial stability, financial security, and overall quality of life (Lusardi & Mitchel, 2014).

Many developing countries need help with enhancing the financial literacy. In Indonesia, for example, some people, especially those living in rural areas, need more basic knowledge about financial management (OJK 2019, 2022). The gap in the financial literacy abilities of rural and urban communities is evidence of a flaw in community empowerment in human capital and economic development. Improving financial literacy in rural communities is critical to improving the Human Development Index (HDI), as evidenced by programs that build human capital through education and skills training (Muti'ah, Ritonga, & Bangun, 2022). These initiatives help individuals make informed financial choices, contributing to better health, economic stability, and educational outcomes, all of which are essential HDI indicators. Studies show that financial literacy in underserved areas promotes personal and community growth, strengthening the overall national HDI metric (Muti'ah, Ritonga, & Bangun, 2022).

As the most minor social institution, ideally every individual can learn about finances from the family. A critical aspect influencing individuals financial behaviors is referred by the information transmission from the family to comprehend and administer their capacity of personal finances (Gudmonson & Danes, 2011; Asadi et al., 2023). Therefore, individuals need to be introduced to financial knowledge as early as possible, from childhood in every household. Given that this early learning can significantly influence their financial literacy levels in adulthood, it is essential to investigate how families in Indonesia disseminate financial information to the younger generation.

Nevertheless, familial dialogues concerning money are restricted or entirely evaded in several instances. This phenomenon, called family financial taboos, stems from cultural dialogues restricting open discourse around finances (Alsemgeest, 2015). In Indonesia, conversations about finances are frequently seen as undesirable, particularly in familial settings (Johan, 2018). This cultural inclination to eschew discussions about finances may hinder children's acquisition of essential financial knowledge and restrict their capacity to make prudent financial decisions in adulthood. Financial taboos may result in diminished transparency in household finances, exacerbating financial literacy (Micek, 2020). Promoting household level of financing requires breaking this taboo. Young people will be better prepared to handle future economic downturns future, and there will be more openness as a result.

As the Indonesian Financial Services Authority (OJK) reported on the annual national survey[1], in 2022, Indonesia's national financial literacy score was 49.68% lower than the financial inclusion index, which was 85.1% (Appendix 1). This knowledge deficit highlights pervasive issues

[1] According to OJK, the data collection of the survey method was carried out through direct interviews with respondents using a pre-designed questionnaire. The 2016 SNLIK questionnaire was compiled by referring to the 2013 SNLIK questionnaire, with additions and modifications of several questions adapted from the Financial Capability Survey(2013; 2019) and the Global Financial Inclusion Index (2014) conducted by the World Bank and the OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion conducted by the Organisation for EconomicCo-operation and Development (OECD, 2018).

in understanding financial concepts, products, and suitable financial behavior. Given that low-income and rural households are more prone to financial illiteracy, comprehending family financial management is crucial for poverty alleviation and achieving economic autonomy (Lee, Lou & Wang, 2023).

This research aims to investigate the transmission of financial literacy across generations in Indonesian households, focusing on the influence of parents on their children's financial behaviors. The importance of families in improving financial literacy, especially in developing countries such as Indonesia, is elucidated by analyzing the transfer of general or financial knowledge from parents to children, notably from fathers and mothers (Lamboglia & Stacchini, 2023; Lissington & Matthews, 2012; Zupančič, Poredoš & Lep, 2023). This study is anticipated to be the inaugural effort to map financial literacy at the household level in Indonesia. It is posited that family financial patterns can be recorded based on socioeconomic factors and other elements influencing individual conduct. This article employs a microeconomic analytical framework.

1.2 Research Limitation

This study focuses on the relationship between parents and children in a household. The parents in question are older and have one generation position above the child. They are modifying the financial family model with Father and Mother as independent variables and children as dependent variables (Zupančič, Poredoš & Lep, 2023). Using the Indonesian Family Life Survey (IFLS) longitudinal data set can assist policymakers in formulating national rules that safeguard individual financial services consumers. The data originates limited from IFLS waves four (the year 2007) and five (the year 2014), comprising 83% of the Indonesian population (Strauss, Witoelar & Sikoki, 2016).

They are concentrating on a specific demographic of children, ranging from early adolescence to early adulthood, aged 12 to 39 years (World Health Organization, 2020), who are officially recorded as residing with their parents and unmarried. The age group of children is divided into four groups such as early adolescence (12 to 14 years), adolescence (15 to 19 years), young adults (20 to 30 years), and early adulthood (31 to 39 years). Financial literacy is calculated within the scope of Tier 1 Financial Literacy, which includes basic money management skills such as budgeting, saving, spending, borrowing, and credit (MAS, 2024; OJK, 2023). This study must address advanced financial literacy, such as financial planning (Tier 2) or investment acumen (Tier 3).

1.3 Problem Statement

Digital and technological trends in any generation of Indonesians allow inclusive finance access to Indonesia's considerable advancements in broadening inclusive access to financial services. Despite Indonesia's considerable advancements in broadening inclusive access to financial services, they need good financial literacy knowledge to be responsible for their own finance. Not only the lack of responsibility that comes from their understanding, but a notable disparity in infrastructure access of financial literacy persists among rural and low-income demographics (OJK 2019; 2022; 2023). The family is instrumental in transmitting financial information and behaviors as the fundamental social unit.

Nonetheless, some Indonesian families continue to grapple with financial illiteracy, and discussions on finance remain taboo in many households (Rapih, 2016; Alsemgeest, 2015). More transparency in communication can ensure the dissemination of financial literacy to youngsters, leading to extended financial mismanagement. This study seeks to examine the homegrown financial elements that affect the intergenerational transfer of financial literacy and the influence of parents on the financial behaviors of children in Indonesia.

1.4 Research Question and Hypotheses

The study aims to examine three research questions, each underpinned by corresponding hypotheses:

Research Question 1:
What parental demographic and socioeconomic characteristics influence children's intergenerational financial literacy development?
Hypothesis 1 (H1):
High number of parental demographic and socioeconomic status positively impacted the influence of financial literacy of children in Indonesia.

Research Question 2:
How does transmitting parents' educational level affect children's financial literacy? intergenerational financial literacy development?
Hypothesis 2 (H1):
Parents' education level directly and significantly influences children's financial literacy.

Research Question 3:
How does transmitting parents' occupation level affect children's financial literacy? intergenerational financial literacy development?
Hypothesis 3 (H1):
Parents' occupation level directly and significantly influences children's financial literacy.

Chapter 2
Literature Review

2.1 Theoretical Foundations of Financial Literacy

Financial literacy refers to the knowledge and skills required to make informed financial decisions, including debt management, financial planning, saving, and investing. It is regarded as essential for personal well-being and economic stability as individuals who are financially literate are better able to use financial systems and instruments to avoid hazards such as being misinformed about bad investments or excessive debt. Cognitive, behavioral, and attitudinal components comprise the theoretical frameworks for comprehending financial literacy, which collectively offer a comprehensive development and transmission of financial literacy across generations.

Lusardi and Mitchell (2011) contended that this knowledge base is essential for maintaining long-term financial stability. Focusing on the cognitive component of financial literacy underscores the importance of comprehending fundamental financial concepts, including inflation, interest rate, and risk diversification. In Indonesia, the capacity to comprehend these fundamental principles is frequently restricted, resulting in suboptimal financial outcomes for significant portions of the populace, as financial literacy levels still need to be higher. The capacity of individuals to engage in sensible financial planning is impeded by a lack of cognitive financial literacy, which reduces their involvement in wealth-building activities such as investing and saving for retirement (OJK, 2019).

Beyond cognitive understanding, financial literacy involves how individuals apply their financial knowledge in practice. This includes actions such as financing, spending, saving, and budgeting. Research has demonstrated that behavioral financial literacy is not solely about knowing what to do but also about consistently making informed financial decisions. Their parents' financial behaviors significantly influence children's financial habits. Lamboglia and Stacchini (2023) showing the responsibility of borrowing and regular saving is a family dynamic that influences financial literacy. This is consistent with the more general theories of behavioral economics, which posit that even financially literate individuals can develop poor behaviors such as overspending because of biases like present-focused thinking.

Financial literacy is also significantly influenced by attitudes toward money. Attitudinal financial literacy is a term used to describe individuals beliefs and preferences concerning their financial management. Hutston's (2010) research on financial self-efficacy emphasizes the significance of a positive financial perspective in developing financial decisions. Nevertheless, in Indonesia, cultural norms occasionally impede open discussion about money within families, resulting in a phenomenon referred to as a financial taboo. Alsemgeest (2016) investigates how these taboos impede the open discussion of financial matters within families, thereby impeding the transfer of financial literacy from parents to children. Children's exposure to critical financial knowledge is restricted by this cultural barrier, which is prevalent in numerous Indonesian households. Consequently, their financial competence is often diminished by the mature.

The concept of family financial socialization is introduced by Gudmonson and Danes (2011), who explain how parents are primary agents in transmitting financial knowledge through direct instruction or by emulating financial behaviors. This process is frequently referred to as "homegrown finance." Homegrown finance assists children in developing their initial comprehension of money management. Given the scarcity of formal financial education opportunities, particularly in rural areas, family-based financial education is of paramount importance in Indonesia. Lissington and Matthews (2012) researched the intergenerational transmission of financial literacy, determining that the offspring of financially literate parents are more likely to have robust financial skills. This underscores the necessity of providing parents with financial literacy to elevate generations.

Recent research by Becker et al. (2018) has significantly emphasized the intergenerational transmission of human capital, particularly in the context of socioeconomic mobility. The focus on human capital underscores the significance of parental investment in their children's education, including financial education, to enhance their long-term socioeconomic prospects. This transmission becomes even more critical in societies with significant income inequality. Parents with a high level of financial literacy can impart knowledge that enables their children to achieve superior financial outcomes, thereby facilitating their upward mobility. Zupančič et al. (2023) also contend that open communication about money between parents and children positively influences financial literacy and satisfaction in maturity. Their finding inspired the writer to reapply the transmission in the Indonesian context. Such an intergenerational transmission mechanism is essential for improving financial literacy among various socioeconomic groups and regions in Indonesia, where economic disparities are pronounced.

2.2 Homegrown Finance

Family-based financial education, known as "*homegrown finance*" is highly effective in imparting financial literacy. This concept highlights the critical influence that parents and family members play in shaping younger generations' financial attitudes and behavior (Gudmonson & Danes, 2011). Empirical evidence indicates that parents frequently serve as their children's primary and most significant financial instructors, and their financial behaviors can have enduring effects on their financial prospects throughout adulthood (Shim et al., 2010; Lusardi & Mitchell,2011).

The intergenerational transmission of financial knowledge is critical for developing good financial habits. Parents who actively engage in financial education at home tend to raise children with more vital financial literacy skills (Zupančič et al., 2023). This transmission is especially crucial during adolescence, when individuals develop autonomous financial management skills. Studies by Micek (2020) and Solon (1992) confirm that the family environment, including direct financial teaching and modeling, significantly impacts young adults' financial welfare.

Furthermore, the process of financial socialization, which involves parents teaching and demonstrating financial practices, is of fundamental importance in influencing the financial literacy of adolescents. Specifically, Gudmunson and Danes (2011) highlight the significance of family discussions regarding money, budgeting, and savings in influencing the attitudes and actions of teenagers towards financial management.

2.3 Cultural Barriers to Financial Literacy: Family Financial Taboo

Regarding family finances, cultural barriers, such as familial financial taboos, pose a substantial challenge to achieving financial literacy. The discussion of money issues within specific cultural contexts is unsuitable, particularly within the family environment (Alsemgeest, 2014). The unwillingness to participate in discussions on money can hinder children's financial literacy development. Parents need an engaging topic in discussion that can ensure that they are about money management (Micek, 2020).

Research shows that the absence of transparent conversation about financial matters perpetuates poor financial literacy across generations. Insufficient financial education within the family and deeply ingrained financial stigmas hampers children's capacity to cultivate healthy financial habits early in life (Micek, 2020). Addressing these social taboos necessitates the implementation of culturally appropriate financial education initiatives and endeavoring to establish financial conversations within households.

2.4 Financial Literacy in Indonesia

Indonesia provides an insightful case for studying financial literacy, as it has made substantial efforts to enhance financial literacy across its population. According to the National Financial Literacy Survey (SNLKI) conducted by OJK, Indonesia's financial literacy falls below the financial inclusion index, representing the proportion of the population since 2013. These findings indicate

that although many Indonesians are part of the official financial system, there is still a notable disparity in their comprehension and efficient utilization of financial products and services.

The survey classifies financial literacy into three primary dimensions: financial knowledge, financial attitudes, and financial behavior. Comprehending the interaction of Indonesians with financial services and goods requires a thorough analysis of these factors. Although financial inclusion is relatively high, many individuals need help to make informed financial decisions due to gaps in financial knowledge. This is evident in the rising number of individuals falling victim to illegal financial services such as online gambling, unregulated loans, and impulsive spending related to e-commerce platforms (World Bank, 2014).

Consequently, financial literacy is more comprehensive than an individual's understanding of financial systems. It encompasses the practical implementation of that knowledge in daily financial decisions and is influenced by attitudes and beliefs regarding money management. In the Indonesian context, financial literacy is frequently transmitted within families, which makes familial influence a critical factor in the development of the financial capabilities of future generations. Promoting family-based financial education initiatives and addressing cultural barriers, such as financial taboos, are critical steps in enhancing financial literacy throughout the nation, thereby contributing to more excellent economic stability and mobility.

2.4.1 Vulnerability to Illegal Financial Services in Indonesia

An alarming phenomenon associated with insufficient financial literacy in Indonesia is the increasing prevalence of persons involved with illicit financial institutions. The dearth of financial literacy and the allure of rapid financial gains have resulted in heightened engagement in internet gambling and illicit internet loans (known as "pinjol"-Pinjaman Online) (Prihatini et al., 2022). An extensive study by the Indonesian Consumer Foundation (YLKI) reveals a notable increase in grievances regarding predatory lending activities carried out by unregulated digital platforms, exploiting those lacking financial literacy (YLKI, 2021). These platforms frequently impose excessively high interest rates, forcing borrowers into more severe financial distress.

2.4.2 Impulsivity-Related Financial Behavior and E-Commerce

The rise of e-commerce in Indonesia has also introduced challenges for individuals with low financial literacy, mainly associated with impulsivity (Widyanto & Prasetyanti, 2022). The impulsive behavior is intensified by implementing the "Buy Now, Pay Later" (BNPL) mechanism and by allowing credit choices to be provided by e-commerce platforms. Without understanding interest rates, debt management, or the long-term consequences of borrowing, financially illiterate individuals may accumulate mass unmanageable debt (OJK, 2022).

2.5 Intergenerational Transmission of Financial Literacy

Intergenerational financial literacy involves transmitting financial knowledge, behaviors, and attitudes from parents to children. Parents significantly influence their children's financial destinies through financial socialization, including direct instruction on financial matters or indirect learning through observation (Shim et al., 2010).

Adolescence is a crucial stage for this transfer, as during this period, individuals start to develop their own financially responsible behaviors. They are processing their parents and the socio-economic environment to tailor their financial behaviors (Zupančić et al., 2023). For instance, parents who exhibit commendable financial habits, such as consistent savings and effective debt management, are more inclined to transmit these behaviors to their children (Lusardi & Mitchell, 2014). Nevertheless, this transmission's efficacy relies on parental involvement in financial deliberations (Micek, 2020).

2.6 Financial Literacy Among Children in the Age Group of Early Adolescent and Early Adulthood

Financial literacy is becoming increasingly vital for adolescents and adults, significantly influencing long-term financial well-being. The World Health Organization (WHO) defines adolescence as ages 10 to 19. However, in Indonesia, Badan Pusat Statistik (BPS), the national statistical bureau, categorizes the population differently: children are ages 0 to 12, and teenagers are between 12 and 15. In contrast, the productive age group spans from 15 to 64. Within this framework, teenagers and young adults fall into the 15 to 30 age range, adults from 31 to 50, and mid-adults from 51 to 64. This classification is important because it highlights the critical age range of adolescents to adulthood for financial education and decision-making.

This stage of life is particularly significant, as the financial habits formed during adolescence and early adulthood can have a lasting impact on one's economic future. Young people, especially those aged 15 to 30, start making financial decisions as they transition from school to work. Financial literacy is essential; it helps them manage their income, avoid debt, and make informed choices. The Indonesian National Financial Literacy and Inclusion Survey (OJK, 2019) emphasizes that the decisions made during this formative period can shape their financial security for years to come.

Research has shown that adolescents' financial literacy levels vary significantly based on their educational and socio-economic backgrounds. For instance, a study by Ciemleja, Lace and Titko (2014) revealed significant gaps in financial knowledge among students from different educational systems, underscoring the need for tailored financial education programs. This need is especially relevant in Indonesia, where the government has initiated efforts to improve financial literacy, including the launch of *Tabungan Junior* product or Junior Saving Account. These accounts are designed to teach young people fundamental money management skills, such as saving and understanding interest.

The *Tabungan Junior* initiative represents a proactive effort to instill financial literacy in young Indonesians early on. By offering savings accounts explicitly tailored for youth, Indonesia promotes early financial engagement and empowers adolescents and young adults to develop essential financial skills. According to a Van Doorn et al., 2020, programs like Tabungan Junior can significantly shape young people's financial behaviors, fostering better saving habits and a deeper understanding of money management. OJK also highlights the importance of these initiatives in bridging the knowledge gap among youth from various backgrounds (OJK, 2020). Ultimately, this initiative aligns with broader financial inclusion and economic empowerment goals, ensuring that the younger generation is better equipped to tackle future financial challenges. Focusing on individuals aged 12 to 50, these educational programs and financial products aim to provide Indonesia's youth with the knowledge and skills necessary to make informed financial decisions. Emphasizing early financial education is crucial for cultivating a financially savvy and resilient society.

Chapter 3
Data and Methodology

3.1 Research Design

This research structured a longitudinal panel design, utilizing data from Wave 4 and 5 of the Indonesian Family Life Survey (IFLS), conducted in 2007 and 2014. The aim is to explore how intergenerational factors shape financial literacy development in children across 13 provinces in Indonesia. The study seeks to uncover what influences young people's financial knowledge and skills by looking at parental traits, socioeconomic conditions, and individual characteristics. The sample includes households with data on parents and children in a separate book of questionnaires collected during the IFLS surveys. This information offers valuable insights into the participants' demographic and socioeconomic backgrounds, helping paint a clearer picture of their financial experiences.

To analyze IFLS data, the study constructs a financial literacy index, acknowledging the limitations in the IFLS dataset regarding detailed financial aspects. Additionally, the research employs panel analysis and bootstrap methods for more profound channeling of the findings in the future. Some things could be improved in this research. The IFLS dataset needs to be more detailed in terms of financial aspects. Which can limit how deeply we can analyze this critical area. Additionally, because the data relies on self-reported information, biases could affect the assessment of financial literacy levels. These complexities highlight the difficulties in measuring financial literacy and point to areas where future research could further enhance the understanding.

3.2 Data Sources

The Indonesian Family Life Survey (IFLS) is a longitudinal household survey that collects data from about 23,776 individuals across 15,067 households, representing around 83% of the Indonesian population. Launched in 1993 by the RAND Corporation and several Indonesian universities, the IFLS collected four waves of data in 1997, 2000, 2007, and 2014. This study focuses on two waves, 4 and 5. The dataset includes information on fathers, mothers, and children, allowing for an intergenerational analysis of financial literacy (Strauss, Witoelar & Sikoki, 2016).

The reason behind considering 2 waves in research is that the fourth and fifth waves of the Indonesian Family Life Survey contain a wealth of information collected at the individual and household levels, including multiple indicators of economic and non-economic well-being that respondents did not previously ask. The preceding three waves were excluded to prevent a bias in the longitudinal data analysis. The sample is restricted to households with complete data on both parents and their children's financial literacy and socioeconomic characteristics. By adjusting to answer all the research questions, the total available data was eliminated.

3.3 Conceptualizing Financial Literacy

Financial literacy includes more than mere factual knowledge. It pertains to having the expertise and assurance to execute intelligent financial choices. Lusardi and Mitchell (2011, 2014) assert that genuine financial literacy encompasses information and the capacity to use it in budgeting, saving, or future planning. This study, constrained by limited data, concentrates solely on financial literacy as it pertains to knowledge of the people in finance.

For a deeper understanding, based on the Monetary Authority of Singapore (MAS, (2024)) and OJK (2021), we categorize the financial literacy index framework into three tiers. The Financial Literacy Index is structured on three levels. Fundamentally covering basic abilities such as budgeting, spending, saving, loan information, and health insurance, Tier 1: Basic Money Management lays the groundwork for financial planning; Tier 2 emphasizes future planning, including long-term goal saving and risk management of money. Last, Tier 3: Investment

Knowledge is the most advanced level; people know and interact with stocks, bonds, and other investments. Since the data is limited, this research focuses on Tier 1. The financial literacy index focuses on essential knowledge and skills, attitudes, behavior, knowledge, and basic skills such as budgeting, spending, loans, saving, and individually managing the national health insurance program to construct the financial literacy index (Figure 1).

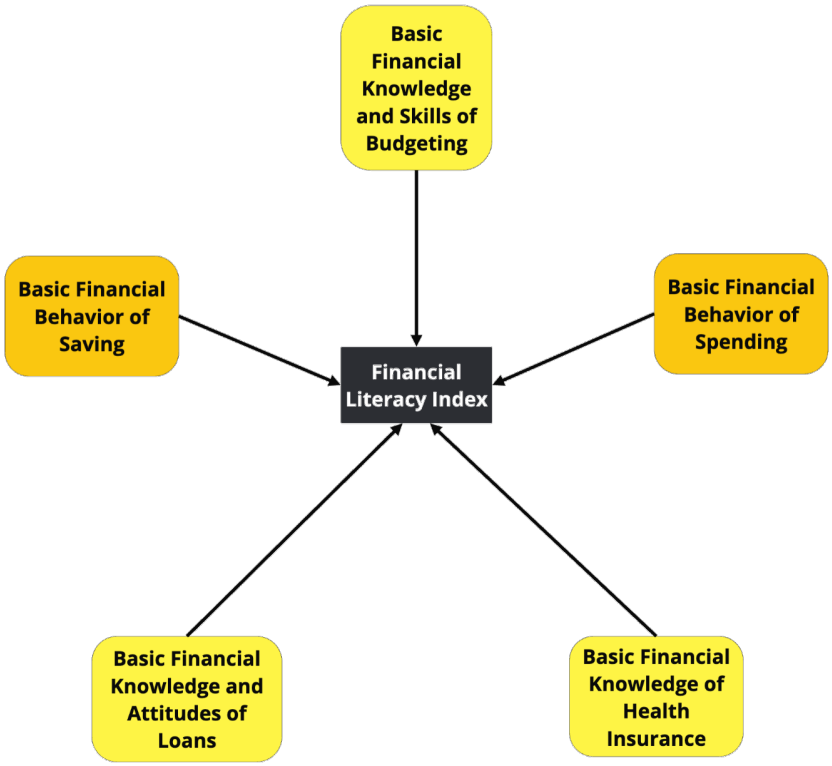


Figure 1. Composing Basic Financial Literacy Index

Source: Author, 2024.

We measure basic financial knowledge using the following variables through Table 1 :

Table 1. Variables Definition

Variables	**Code in IFLS**	**Description**	**Dummy** Coding **0 and 1**
Basic Financial Knowledge and Skills of Budgeting	pk18_A1	We would like to know how do you makes decisions about budgeting the expenditures and use of time, at least you can budgeting one type of expenditure.	0 == "Not budgeting" 1 == "At least budget one type of expenditure"
Basic Financial Behavior of Spending	dla104a_c2	Do you recognize the items you have purchased for your family? [Can food expenditures be given more priority than non-food expenditures]	0 ==" No" 1 ==" Yes"
Basic Financial Knowledge of Saving	hr01_G	Do you know saving product/ deposit saving/ or stock? At least one.	0 ==" No" 1 ==" Yes"
Basic Financial Knowledge about Loans	bh00	Do you or any other household member know of a place where you can borrow money?	0 ==" No" 1 ==" Yes"
Basic Financial Knowledge about Health Insurance	kr26	Are you signed up with health insurance card program (Kartu Sehat/ AKSESKIN/BPJS/ JAMKESMAS)	0 ==" No" 1 ==" Yes"

Source: Author, 2024.

Dummy coding 0 and 1 was created to make the analysis easier. The answer is already defined as a dummy with different code categories in the raw data set. IFLS uses 1 and 3 to define no and yes, but sometimes there will be 8 for other options or 9 as "does not want to answer." By making it similar, the coding will help the research to be consistent.

The Financial Literacy Index is measured between 0 and 1. Differentiating from the dummy above, 0 means poor financial literacy, and 1 completely understands or is advanced in financial literacy. These factors subsequently help to provide a composite score between 0 and 1, known as the Financial Literacy Index (flix).

$$X_i = \begin{cases} 1 \\ 0 \end{cases} \quad [1]$$

While a score of 1 denotes complete understanding in all important spheres of basic financial management, a score of 0 indicates the person lacks financial literacy in the measured domains. To formulate the following value function:

$$FLIX_i = \frac{1}{5} \sum_{j=1}^{5} X_{ij} \quad [2]$$

Where:
X_{ij} represents the literacy score (1 or 0) for component *j* (where *j* $\in$ {*B,S, Sa, L, I*} for individual *i*. The sum is over the five literacy components.

For expanding, this formula can be written as:

$$FLIX_i = \frac{1}{5}\,(B_i + S_i + Sa_i + L_i + I_i) \quad [3]$$

This formula provides a normalized index that captures the overall financial literacy of an individual, with equal weight assigned to each of the five components. In cases where any of the literacy components for individual i is missing, the Financial Literacy Index for that individual is set to missing. This can be represented as:

$$FLIX_i = \begin{cases} \frac{1}{5}\sum_{j=1}^{5} X_{ij} \\ Missing \end{cases} \qquad \text{If } X_{ij} \text{ values are available / missing.} \quad [4]$$

Hung, Parker, and Yoong (2009) and Zupančič et al. (2023) claim that a child's financial competency is much shaped by the financial literacy of both parents. Many elements affect the way financial knowledge is transmitted, including the parental involvement in the life of the kid. Considering demographics, education level, financial management practices, occupation, the function of parents in the household (either head of the household or not), and the child's status (biological or adopted), the conceptual framework (Figure 2) shows intergenerational transfers of financial literacy.

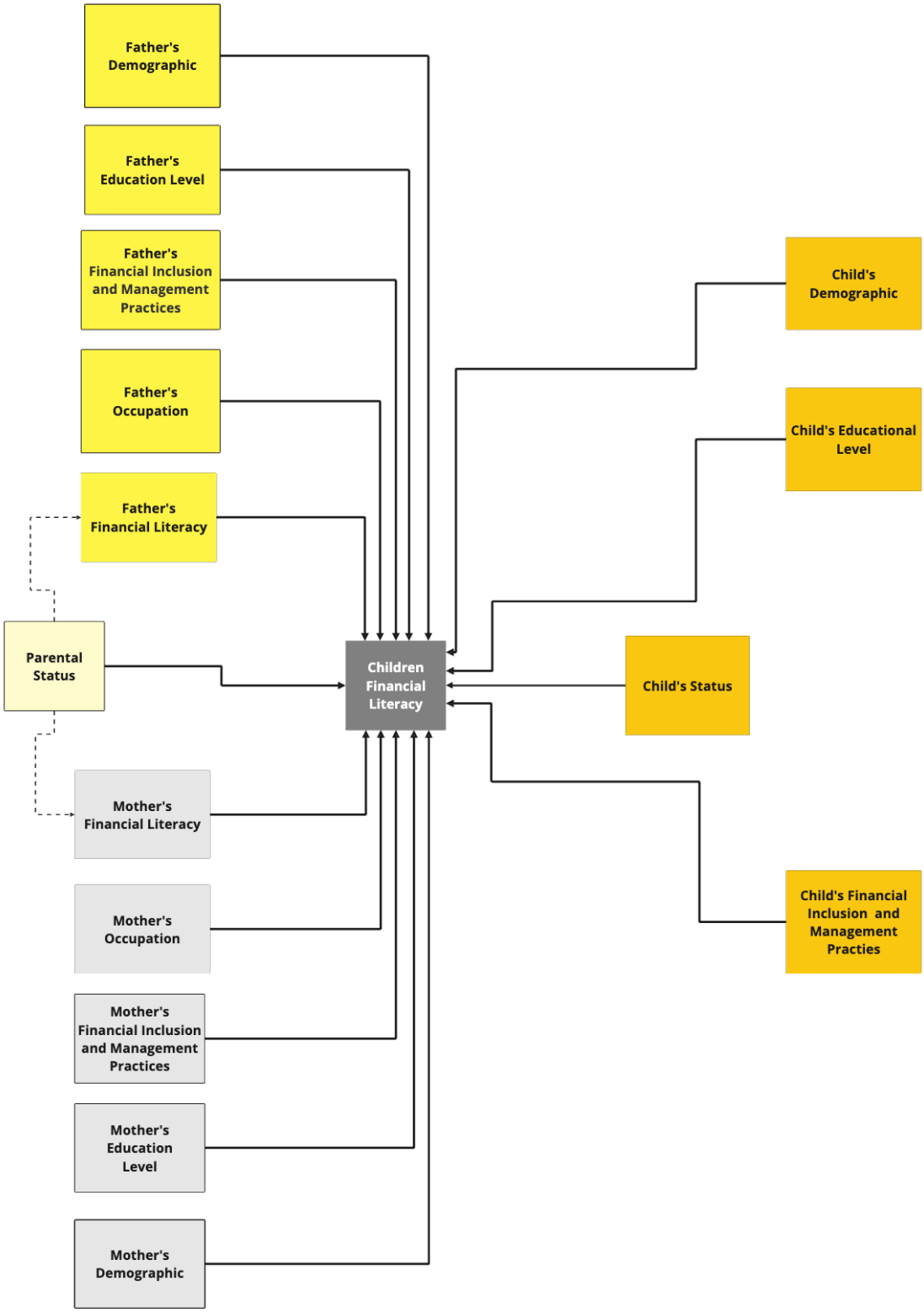


Figure 2. Conceptual Framework of Intergenerational Financial Literacy

Source: Author, 2024.

3.4 Methodology and Model Specification

Using IFLS data from 2007 and 2014, this study intends to investigate over time how financial literacy is passed on from parents to children. Using a distinctive ID (***pidlink***), which ties families across many years, we follow single households. The dataset is set in a broad manner whereby the dependent variable is the child's financial literacy. Extended variable explanation is shown in the table 2.

Table 2. Variable Explanation

Variable	Code	Description
Longitudinal Identification Number		
Household ID	hhid	A same/fix unique household number identifier for each wave of IFLS.
Personal ID link	pidlink_chd, pidlink_fth, pidlink_mth	A same/fix unique individual personal number identifier for each wave of IFLS.
Dependent Variable		
Financial Literacy Index Children	flix_chd	Measured based on the child's financial literacy score.
Independent Variables		
Financial Literacy Index Father	flix_fth	Measured based on the father's financial literacy score.
Financial Literacy Index Mother	flix_mth	Measured based on the mother's financial literacy score.
Variable Control		
Demographic Variables		
Sex (Child)	sex_chd	Sex of the child (Male = 1, Female = 0).
Location (Urban or Rural)	loc	Dummy variable: 1 if the child resides in an urban area, 0 otherwise.
Age	age_chd , age_fth, age_mth	Age of the child, father, and mother.
Religion	islam_chd, islam_fth, islam_mth	Categorical variable for child, father, and mother religion (Islam = 1, Others religion = 0). Notes, Islam is the majority relgion in Indonesia, It is 87% of the population (BPS, 2024).
Ethnicity	java_chd, java_fth, java_mth	Dummy variable for Javanese ethnicity (1 = Javanese, 0 otherwise). Notes, Java is the majority ethnicity in Indonesia.
Individual status in the household	stat_chd, stat_fth, stat_mth	Status of the children; 1 if the children is biological children and 0 if the child is adopted. Status of the parent (father/mother) 1 if they are a

		head of the household, 0 if they are not.
Socioeconomic Variables		
Income	income_fth, income_mth	Monthly income of the father/mother.
ln income	income_fth_ln, income_mth_ln	Logarithm natural of monthly income of the father/mother.
Loans	loans_hh	Total loans per household. There is only provided 1 loans data per household.
ln loans	loans_hh_ln	Logarithm natural of total loans per household. There is only provided 1 loans data per household.
Occupation- Unpaid Family Worker	unpaidfamwork_fth, unpaidfamwork_mth	Dummy variable: 1 if the father/mother works as an unpaid family worker, 0 otherwise.
Occupation- Self-employed	selfemploy_fth selfemploy_mth	Dummy variable: 1 if the father/mother is self-employed, 0 otherwise.
Occupation -Government	govwork_fth govwork_mth	Dummy variable: 1 if the father/mother works in the government, 0 otherwise.
Occupation -Agriculture	agri_fth agri_mth	Dummy variable: 1 if the father/mother works in agriculture, 0 otherwise.
Educational Level		
Education -Primay	primary_chd primary_fth primary_mth	Dummy variable: 1 if the child/father/mother completed primary education, 0 otherwise.
Education - Junior Secondary	juniorsec_chd juniorsec_fth juniorsec_mth	Dummy variable: 1 if the child/father/mother completed junior secondary education, 0 otherwise.
Education - Senior Secondary	seniorsec_chd seniorsec_fth seniorsec_mth	Dummy variable: 1 if the child/father/mother completed senior secondary education, 0 otherwise.
Education - Tertiary	tertiaryedc_chd tertiaryedc_fth tertiaryedc_mth	Dummy variable: 1 if the child/father/mother completed tertiary (upper highschool/vocational/ university) education, 0 otherwise.

Source: Author, 2024.

Given the panel character of the data, we will employ Generalized Least Squares (GLS) to account for variances across time as well as family differences. Using a Fixed Effects (FE) or Random Effects (RE) model will be decided by the Hausman test among other important choices. This will enable us to choose the best model for our data set.

3.4.1 Model Specification

First Model : Basic Intergenerational Financial Literacy Model

In the first model, we focus on the direct their children link between parental financial literacy and their children's financial literacy. This is the foundation for understanding the transmission of financial knowledge across generations. The model can be written as:

$$flix\_chd = \alpha + \beta_1 flix\_fth + \beta_2 flix\_mth + X_{it} + \mu_{it} + \varepsilon_{it} \quad [5]$$

Where flix_c (y) as the dependent variable vector will be denote as:

$$y_i = \begin{bmatrix} y_i 1 \\ y_i 2 \\ . \\ . \\ y_i t \end{bmatrix} \quad [6]$$

and, the independent variable explained through the matrix X_{it} that includes the explanatory variables at each time point t for individual i :

$$X_i = \begin{bmatrix} 1 & Father_1 & Mother_1 & . & . & . & X_{i1} \\ 1 & Father_2 & Mother_2 & . & . & . & X_{i2} \\ . & . & . & . & . & . & . \\ . & . & . & . & . & . & . \\ . & . & . & . & . & . & . \\ 1 & Father_t & Mother_t & . & . & . & X_{it} \end{bmatrix} \quad [7]$$

Second Model : Parental Education as a Mechanism of Transmission

In the second model, advancing a bit by include parental education as a main component. Here the relation how the academic background of a parent could affect their child's financial awareness measured.

Second Model Step 1:

$$tertiaryedc\_fth_i = \alpha + \beta flix\_fth_i + u_i \quad [8]$$

Here, tertiaryedc_fth represents whether the father has a higher education degree. This is modeled as being influenced by the father's financial literacy (flix_fth), along with a constant (α) and a margin for random variation (u_i).

$$tertiaryedc\_mth_i = \alpha + \beta flix\_mth_i + u_i \quad [9]$$

Similarly, tertiaryedc_mth reflects whether the mother has completed higher education based on her financial literacy (flix_mth).

Second Model Step 2:
In the second step, the analysis is capturing how different levels of parental education may affect the child's financial literacy, considering both parents' educational backgrounds.

$$flix\_chd_i = \alpha + \beta_1 tertiaryedc\_fth_i + \beta_2 primarysec\_fth_i + \beta_3 juniorsec\_fth_i + \beta_4 seniorsec\_fth_i + u_i \quad [10]$$

In this equation, the child's financial literacy (flix_chd) is modeled as being influenced by the various educational levels of the father. These levels include higher education, primary education, junior secondary education, and senior secondary education, each with their own estimated effect.

$$flix\_chd_i = \alpha + \beta_1 tertiaryedc\_mth_i + \beta_2 primarysec\_mth_i + \beta_3 juniorsec\_mth_i + \beta_4 seniorsec\_mth_i + u_i \quad [11]$$

Similarly, the model uses the mother's education level (higher education, primary, junior secondary, and senior secondary) to assess its impact on the child's financial literacy.

Second Model Step 3:
The concluding step duplicates the analysis from Step 2, employing the bootstrap method 1000 times. This entails iterative random sampling to enhance the model's outputs, rendering them more robust and dependable, reducing dependence on specific sample attributes. In general, the objective of this model is to reveal the extent to which a parent's education level may influence a child's financial literacy. To further solidify the reliability of our findings, we have incorporated the bootstrap technique.

Third Model : Parental Occupation as a Mechanism of Transmission
The third model incorporates parental occupation as another potential channel for transmitting financial literacy. The hypothesize that a parent's type of employment, whether self-employed, a government worker, or another type, may also impact their child's financial literacy. This is formulated in the following three steps:

Third Model Step 1:
In the first step examine the relationship between a parent's employment status and financial literacy. This is done separately for fathers and mothers.

For fathers:

$$selfemploy\_fth_i = \alpha + \beta flix\_fth_i + u_i \quad [12]$$

Here, the variable selfemploy_fth (father's self-employment status) is modeled as a function of flix_fth (father's financial literacy), with α as the intercept and u_i as the error term.

For mothers:

$$selfemploy\_mth_i = \alpha + \beta flix\_mth_i + u_i \quad [13]$$

Similarly, the mother's self-employment status (selfemploy_mth) is modeled based on the mother's financial literacy (flix_mth).

Third Model Step 2:
In the second step, we investigate how various types of parental employment might influence the child's financial literacy. This step also analyses the roles of both fathers and mothers separately.

For fathers:

$$flix\_chd_i = \alpha + \beta_1 selfemploy\_fth_i + \beta_2 unpaidfamwork\_fth_i + \beta_3 govwork\_fth_i + \beta_4 agri\_fth_i + \beta_5 casual\_fth_i + u_i$$

[14]

This equation models the child's financial literacy (flix_chd) as influenced by the father's various employment types (self-employed, unpaid family work, government work, agricultural work, and casual work), each with their respective coefficients

For mothers:

$$flix\_chd_i = \alpha + \beta_1 selfemploy\_mth_i + \beta_2 unpaidfamwork\_mth_i + \beta_3 govwork\_mth_i + \beta_4 agri\_mth_i + \beta_5 casual\_mth_i + u_i$$

[15]

Similarly, the mother's employment type (self-employment, unpaid family work, government work, agricultural work, and casual work) predicts the child's financial literacy.

Third Model Step 3:
The third step repeats the second model but employs a bootstrap method. This resampling technique aims to improve the robustness of the results, ensuring that the outcomes are more reliable and less affected by sample-specific variations. This three-step model helps determine how parental financial literacy and occupation type contribute to the child's financial literacy, with added robustness provided by the bootstrap approach in the final step.

3.4.2 Model Estimation and Testing

All three models will be approximated Using panel GLS techniques to handle any autocorrelation or heteroscedasticity in the data (Wooldridge, 2019). We will choose the Fixed or Random Effects model depending on the Hausman test to guarantee the one most suited for the data. Inspired by Wu (1986), who proposed resampling techniques like the Jackknife and Bootstrap to improve estimates in complex models, Models 2 and 3, which introduce the "channelling" mechanisms, will be used in our tests of resilience to guarantee that the outcomes are as dependable as may be. The explanation of GLS determines:

$$\beta\hat{}_{GLS} = \left(\sum_{i=1}^{N} X_i^t \Omega_i^{-1} X_i\right)^{-1} \left(\sum_{i=1}^{N} X_i^t \Omega_i^{-1} y_i\right)$$

[16]

Where:

X_i is the matrix of independent variables
Ω_i is the variance or covariance matrix for individual i
y_i is the dependent variable vector

This formula provides efficient of β, adjusting for the correlation in the error across time for each individual. This approach guarantees that the models are strong enough to reflect the complexity

of intergenerational financial literacy transfer and delineate the main interactions we wish to investigate. Using these models, we want to clarify the role of parental education and occupation in forming the financial competency of subsequent generations.

Chapter 4
Main Result and Analysis

This chapter presents the regression models results to examine the correlation between parental financial literacy (flix_fth and flix_mth) and children's financial literacy (flix_c) development. The analysis is organized based on the three research questions and hypotheses evaluated across three model scenarios.

4.1 Descriptive Statistics

Table 3 explores the descriptive statistics of all variables in this study, which provides a comprehensive overview of the dataset used. The year separation of data categories is displayed using the data merging method to indicate the availability of the IFLS data used. Variables from IFLS wave 4 (2007) are indicated by the number "07" after the variable name, and for wave 5 (2014) are given the number "14". Statistics, including mean, median, standard deviation, and range, are essential to understanding the correlation between parental financial literacy and children's financial outcomes. This study sets the foundation for future regression studies, emphasizing the interaction of various factors in influencing intergenerational financial literacy.

Table 3. Descriptive Statistics of All Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Identification Number					
pidlink_chd	3679	1.663e+08	94290979	1220006	3.213e+08
pidlink_fth	3146	1.674e+08	94728493	1220001	3.213e+08
pidlink_mth	3554	1.661e+08	94488641	1220002	3.213e+08
Financial Literacy Index [*Flix*]					
flix_07_chd	3680	.287	.148	0	.8
flix_07_fth	3680	.33	.185	0	.8
flix_07_mth	3680	.425	.147	0	.8
flix_14_chd	3680	.301	.169	0	.8
flix_14_fth	3680	.332	.229	0	.8
flix_14_mth	3680	.461	.196	0	.8
Demographic Variables					

age_07_chd	3680	19.167	6.128	12	39
age_07_fth	3147	49.879	9.277	29	87
age_07_mth	3555	45.351	8.651	20	84
age_14_chd	3680	23.203	6.799	12	39
age_14_fth	3147	54.739	8.909	24	90
age_14_mth	3555	50.343	8.378	26	91
sex_c_07	3,680	.4616848	.4985975	0	1
sex_c_14	3,680	.4668478	.4989675	0	1
loc_07	3680	.542	.498	0	1
loc_14	3680	.621	.485	0	1
islam_07_chd	3680	.905	.293	0	1
islam_07_fth	3680	.77	.421	0	1
islam_07_mth	3680	.874	.332	0	1
islam_14_chd	3680	.909	.287	0	1
islam_14_fth	3680	.735	.442	0	1
islam_14_mth	3680	.865	.342	0	1
java_07_chd	3680	.421	.494	0	1
java_07_fth	3680	.364	.481	0	1
java_07_mth	3680	.41	.492	0	1
java_14_chd	3680	.44	.496	0	1
java_14_fth	3680	.362	.481	0	1
java_14_mth	3680	.419	.493	0	1
stat_07_chd	3680	.971	.168	0	1
stat_07_fth	3680	.854	.353	0	1
stat_07_mth	3680	.145	.352	0	1
stat_14_chd	3680	.964	.185	0	1

stat_14_fth	3680	.805	.396	0	1
stat_14_mth	3680	.193	.395	0	1
Socioeconomic Variables					
income_07_fth_ln	3680	.307	2.041	0	16.888
income_07_mth_ln	3680	.592	2.616	0	16.013
income_14_fth_ln	3680	.957	3.774	0	20.212
income_14_mt_ln	3680	1.081	3.775	0	18.826
loans_07_hh_ln	749	14.645	1.75	9.904	19.519
loans_14_hh_ln	933	15.364	1.955	0	20.03
unpaidfamwork_07_fth	3680	.009	.094	0	1
selfemploy_07_fth	3680	.015	.121	0	1
govwork_07_fth	3680	.01	.098	0	1
agri_07_fth	3680	.006	.075	0	1
unpaidfamwork_07_mth	3680	.01	.097	0	1
selfemploy_07_mth	3680	.016	.127	0	1
govwork_07_mth	3680	.004	.062	0	1
agri_07_mth	3680	.003	.052	0	1
unpaidfamwork_14_chd	3680	.001	.023	0	1
selfemploy_14_chd	3680	.001	.029	0	1
govwork_14_chd	3680	.001	.023	0	1
agri_14_chd	3680	.001	.023	0	1
unpaidfamwork_14_fth	3680	0	.016	0	1
selfemploy_14_fth	3680	.01	.098	0	1
govwork_14_fth	3680	.011	.102	0	1

agri_14_fth	3680	.001	.037	0	1
unpaidfamwork_14_mth	3680	.004	.066	0	1
selfemploy_14_mth	3680	.005	.074	0	1
govwork_14_mth	3680	.004	.062	0	1
agri_14_mth	3680	.002	.044	0	1
Educational Level					
primary_07_chd	3680	.218	.413	0	1
juniorsec_07_chd	3680	.353	.478	0	1
seniorsec_07_chd	3680	.335	.472	0	1
tertiaryedc_07_chd	3680	.084	.277	0	1
primary_07_fth	3680	.421	.494	0	1
juniorsec_07_fth	3680	.128	.334	0	1
seniorsec_07_fth	3680	.178	.383	0	1
tertiaryedc_07_fth	3680	.071	.257	0	1
primary_07_mth	3680	.535	.499	0	1
juniorsec_07_mth	3680	.144	.351	0	1
seniorsec_07_mth	3680	.138	.344	0	1
tetiaryedc_07_mth	3680	.049	.215	0	1
primary_14_chd	3680	.138	.345	0	1
juniorsec_14_chd	3680	.246	.431	0	1
seniorsec_14_chd	3680	.411	.492	0	1
tertiaryedc 14 chd	3680	.192	.394	0	1
primary_14_fth	3680	.381	.486	0	1
juniorsec_14_fth	3680	.129	.335	0	1
seniorsec_14_fth	3680	.173	.378	0	1

tertiaryedc_14_fth	3680	.074	.263	0	1
primary_14_mth	3680	.499	.5	0	1
seniorsec_14_mth	3680	.148	.355	0	1
tertiaryedc_14_mth	3680	.062	.241	0	1

**Notes:* *"07" refers to all data from IFLS 2007, and "14" refers to all data from IFLS 2014.*
"Chd" *denotes children,* ***"Fth"*** *denotes father, and* ***"Mth"*** *denotes mother.*
General dummy *uses 0 for "no; male" and 1 for "yes; female" on an individual level.*

Source: Author, 2024.

4.2 Descriptive Analysis

This longitudinal panel study sample comprises 3,425 households selected from a total of 13,535 families in 2007 and 16,930 families in 2014 that were surveyed. The reduction in the sample size from the original data occurred because of adjustments to the study's needs. The dataset includes information on 3,146 fathers and 3,554 mothers, with certain families missing data on one or both parents. The sample comprises 3,680 children, including biological and adoptive individuals (Figure 3).

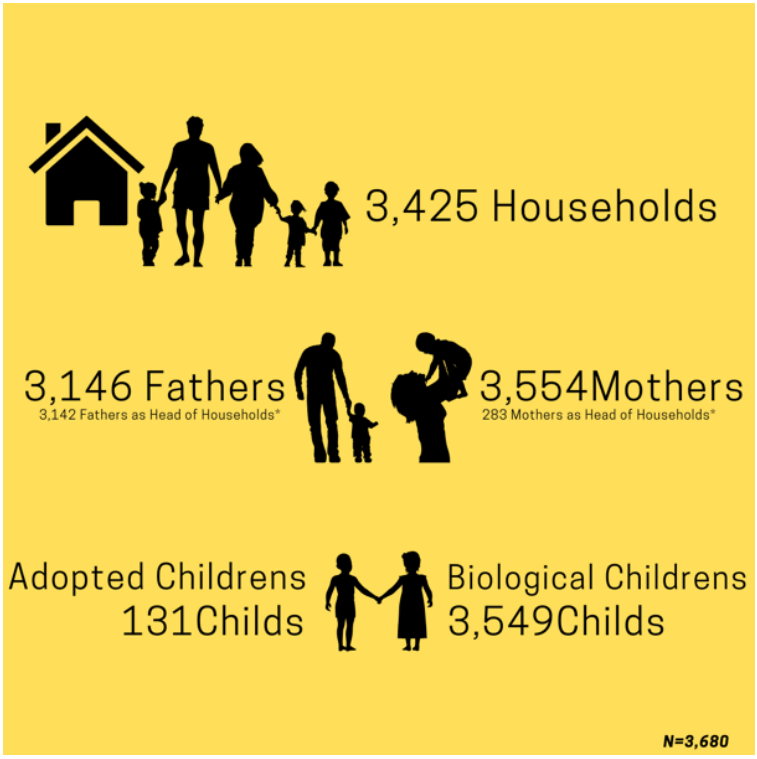


Figure 3. Merged Research Sample Group

Source: Author, 2024.

4.2.1 Characteristic of Financial Literacy by Region in Indonesia

Since the first wave of IFLS, research has been conducted in 13 Provinces[2] in Indonesia, representing 83% of the population. However, the expansion of Provinces in Indonesia was carried out by the central government to facilitate the decentralized democratic system. Moreover, several expansions of the province area have occurred until 2014. In this study, areas outside the 13 Provinces are categorized as "Other Provinces" (Figure 4). An explanation of other provinces can be seen in Appendix 2.

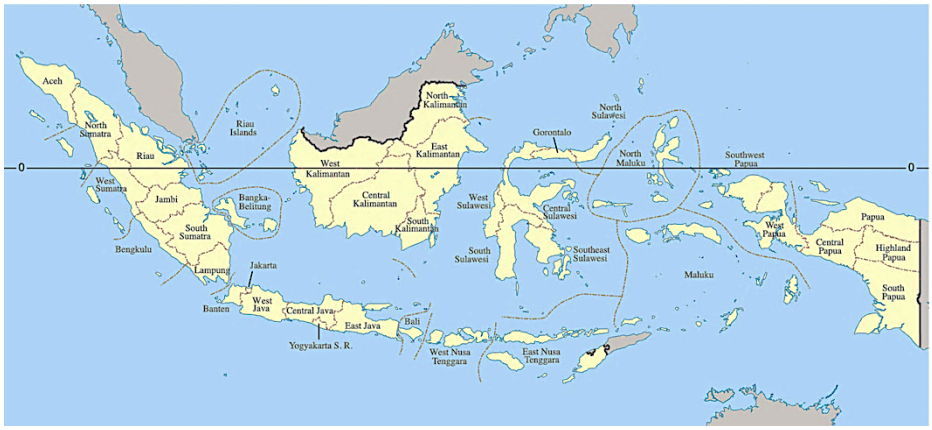


Figure 4. Indonesia Administrative Division Maps

Source: Sardon & Yung, 2024

Focusing on 13 provinces, we see varying levels of financial literacy index (Figure 5). In 2007, children's average financial literacy index was 0.36 or 36%, fathers 0.4 or 40%, and mothers 0.47 or 47%. In 2014, these levels had improved, although regional disparities still exist. For example, in DIY, the level of financial literacy for children was 0.38 or 38%, with fathers at 0.43 or 43% and mothers at 0.48 or 48%. However, in provinces such as South Kalimantan and South Sulawesi, children's financial literacy was only at 0.3 or 30%, and the figures for both fathers and mothers were also relatively low. For additional information regarding the distribution of each index pertaining to children, dads, and mothers in both years, go to Appendix 3.

Several things can explain this difference. The 2008 global financial crisis likely significantly impacted household economies (Strauss, Witoelar & Sikoki, 2016), influencing how people manage money and approach financial education. In addition, migration patterns may have affected access to financial services and education in some regions. These regional disparities highlight the need for targeted efforts to address financial literacy issues, especially in regions such as South Kalimantan and South Sulawesi, where financial knowledge is still lagging.

Mothers tend to show higher financial literacy levels than fathers and children; this may be attributed to family cultural norms, where mothers often handle household finances (Alsemgeest, 2015; Johan, 2018; Mincek, 2020). Although financial literacy rates have improved from 2007 to 2014, much work remains to be done, especially in regions where literacy rates are still lagging, and understanding why these gaps exist, whether due to access to education, financial services, or family decision-making, will be key to creating more effective financial education and support programs across Indonesia. Overall, the plotting of financial literacy index mapping result is unexpectedly consistent with the OJK National Financial Literacy Survey in 2022 (Appendix 4).

[2] Thirteenth provinces in the first wave of IFLS are *Sumatera Utara* (North Sumatera), *Sumatera Barat* (West Sumatera), *Sumatera Selatan* (South Sumatera), *Lampung, DKI Jakarta, Jawa Barat* (West Java), *Jawa Tengah* (Central Java), *DI Yogyakarta, Jawa Timur* (East Java), *Bali, Nusa Tenggara Barat* (West Nusa Tenggara), *Kalimantan Selatan* (South Kalimatan), *Sulawesi Selatan* (South Sulawesi).

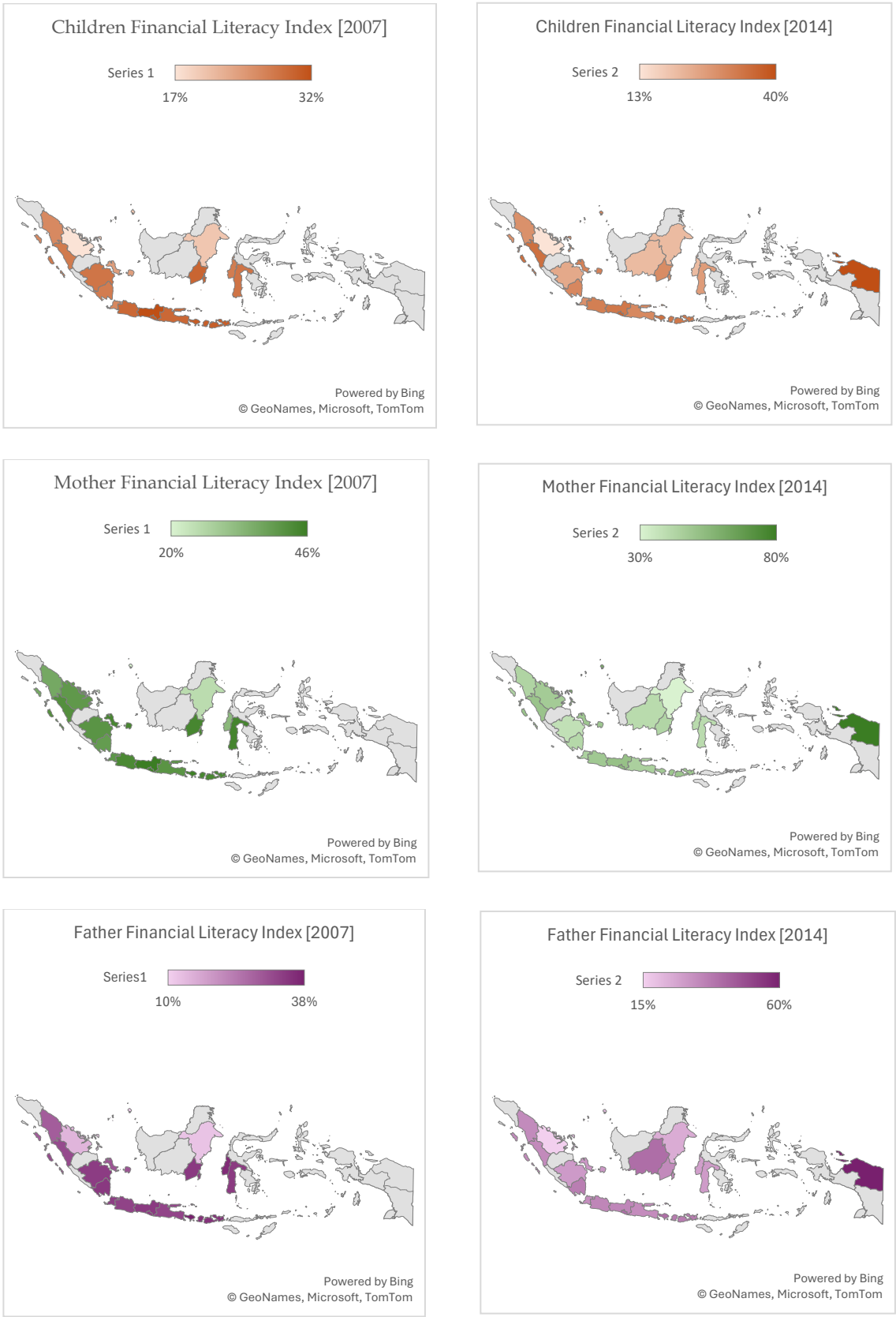


Figure 5. Financial Literacy Index Mapping in 2007 and 2014

Source: Author, 2024.

Each province in Indonesia is categorized into two parts: urban and rural. The difference between urban and rural lies in the area close to the center of regional government and an economic center (Strauss, Witoelar & Sikoki, 2016). Figure 6 is the mean of the financial literacy index per region converted into a percentage. Each province is automatically divided into 2 groups, rural and urban.

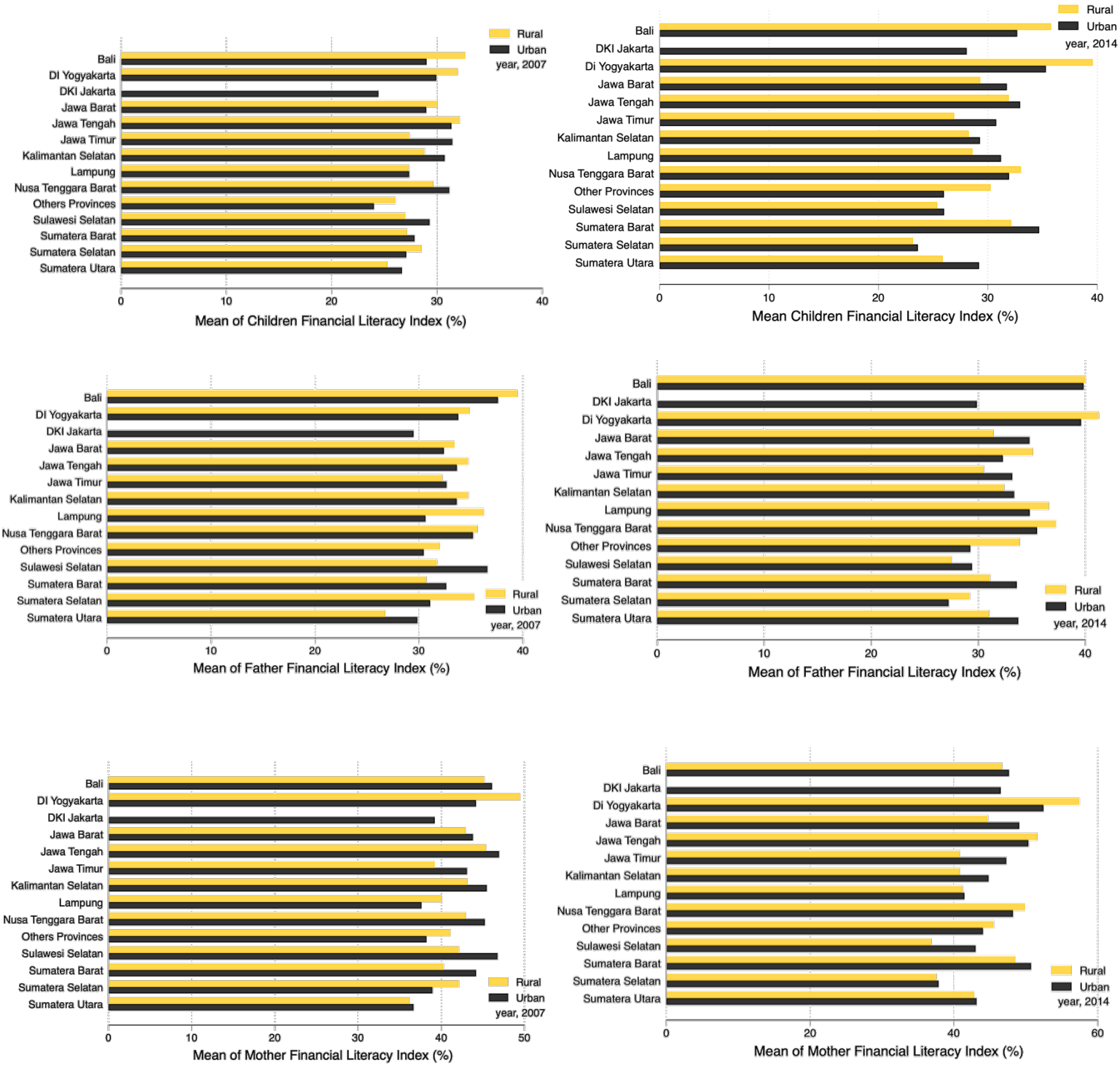


Figure 6. Mean of Financial Literacy Index by Province and Type of Location

Source: Author, 2024.

Of the 13 provinces, DKI Jakarta does not have a "rural" location category because DKI Jakarta is the capital city of Indonesia, which is the center of economy and government and is categorized as an urban city. Data from 2007 for children, fathers, and mothers showed that rural areas had a higher literacy rate than rural areas. However, 2014, urban areas experienced a slight increase compared to 2007. DI Yogyakarta, Bali, and West Sumatra are the three provinces with high average financial literacy abilities in both years.

4.2.2 Children's Financial Literacy Index Patterns and Parental Influence

The primary variable studied in this study is Flix (Financial Literacy Index). Flix Children is the dependent variable, and the variables Flix Father and Flix Mother are the independent variables. Satisfaction with the financial relationship between parents and children is the benchmark in this study (Zupančič, Poredoš & Lep, 2023). To explore information on the parental financial relationship in this family in Figure 7, we first get to know the characteristics of children's financial literacy in this study.

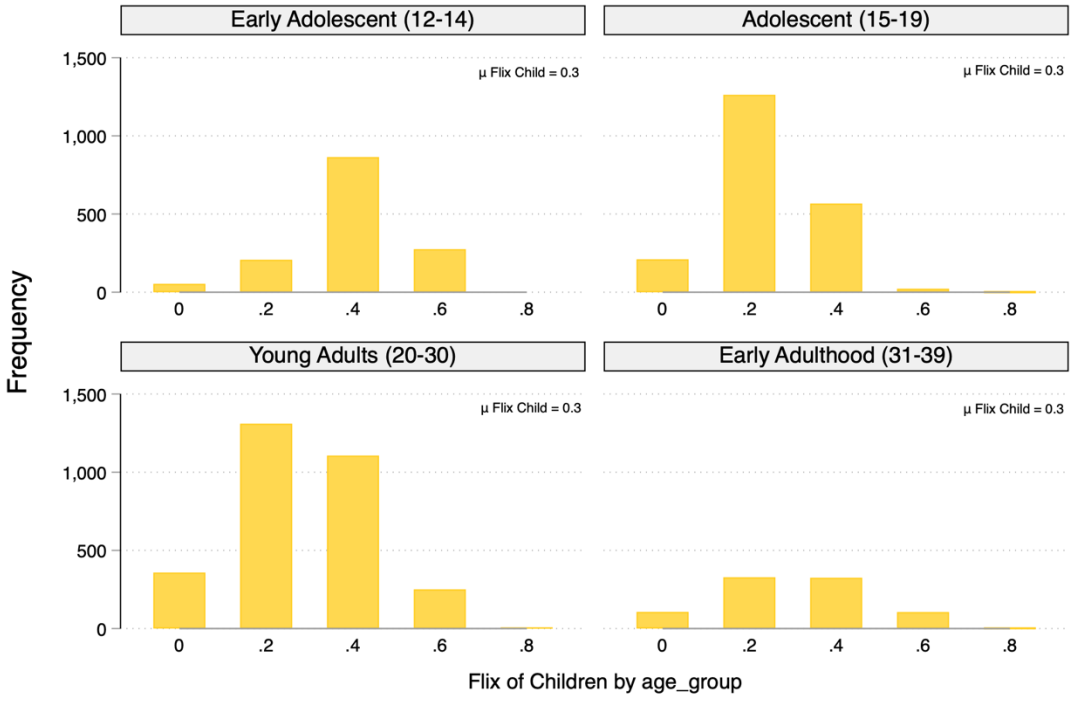


Figure 7. Financial Literacy Index of Children by Age Group

Source: Author, 2024

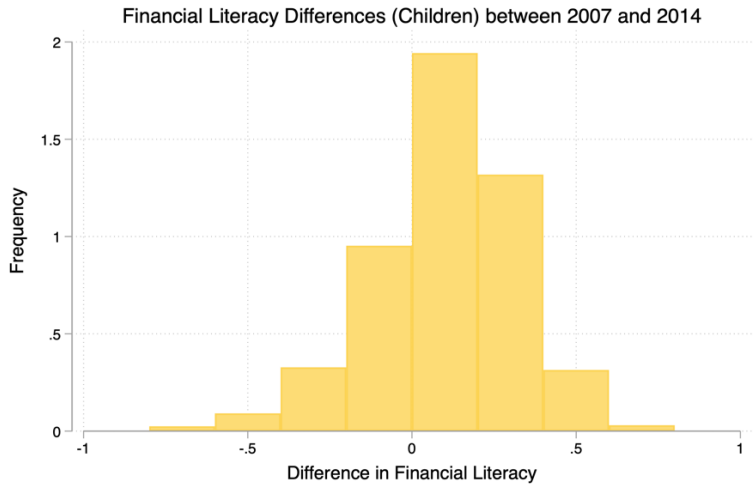
Figure 7 shows how financial literacy is distributed across four age groups, from early adolescence (12-14) to early adulthood (31-39). Each group has the same average financial literacy index score, 0.3 points. However, the distribution within the groups varies. In early adolescence, most children have a mode with a score of 0.4 followed by a score of 0.6, which implies that since an early age, they have been included in financial literacy, which is a good indicator. After the adolescent age group, in some populations, their financial literacy knowledge is only 0.2. That is something to consider; in other words, this age group lacks the early adolescent age group. In the young adult demographic, the mode is 0.2, succeeded by 0.4. Similar to the preceding adolescent age cohort. The tendency for young adults closely resembles that of adolescents. In early

adulthood, with a limited number of frequency observers, the distribution of the financial literacy score is concentrated between 0.2 and 0.4, in contrast to other age groups.

This unpatterned trend shows that there is no guarantee that the older you are, the more financially literate you are. Another interesting thing to analyze is whether this age grouping has common habits related to literacy in general or not. According to Figure 7, in analyzing generation groups, we can have an advance analysis about generation habits that lead to a common behavior by the age grouped. In this study, the grouping was indeed done based on four age groups, but briefly, we can see the birth year of each observed. Moreover, early adolescents born in the year 1993 to 2003 are considered as generation Alpha and generation Z. For early adults are generation Y and generation X. For more details about grouping between generations can be seen in Appendix 5.

According to Kristy (2019), the behaviors of Generation Z and Alpha in everyday life are fairly comparable. Generation Z is a creative cohort that is proficient in technological utilization. They are learning adaptively using advanced technology, particularly for financial skills. The ease of acquiring new information rapidly facilitated their learning, especially financial literacy. In contrast to Generation Y, which favors learning through networking, and Generation X, which prefers independent study and requires a more prolonged learning process, Generation Z exhibits different educational preferences.The data limitations regarding this age grouping can be an idea for future research with other data sets.

The comparison of parental and children's differences between 2007 and 2014 indicates that children's financial literacy has advanced more markedly than their parents. The histograms (figure 8) indicate that most children's scores are between 0 and 0.2, implying a significant enhancement in their financial knowledge. This growth may be affected by parental financial conduct and external factors, like improved education and greater access to financial information. Conversely, the disparities for fathers and mothers exhibit minimal enhancements, with most values fluctuating between 0 and 0.1, suggesting that parents' financial literacy tends to stabilize with time.



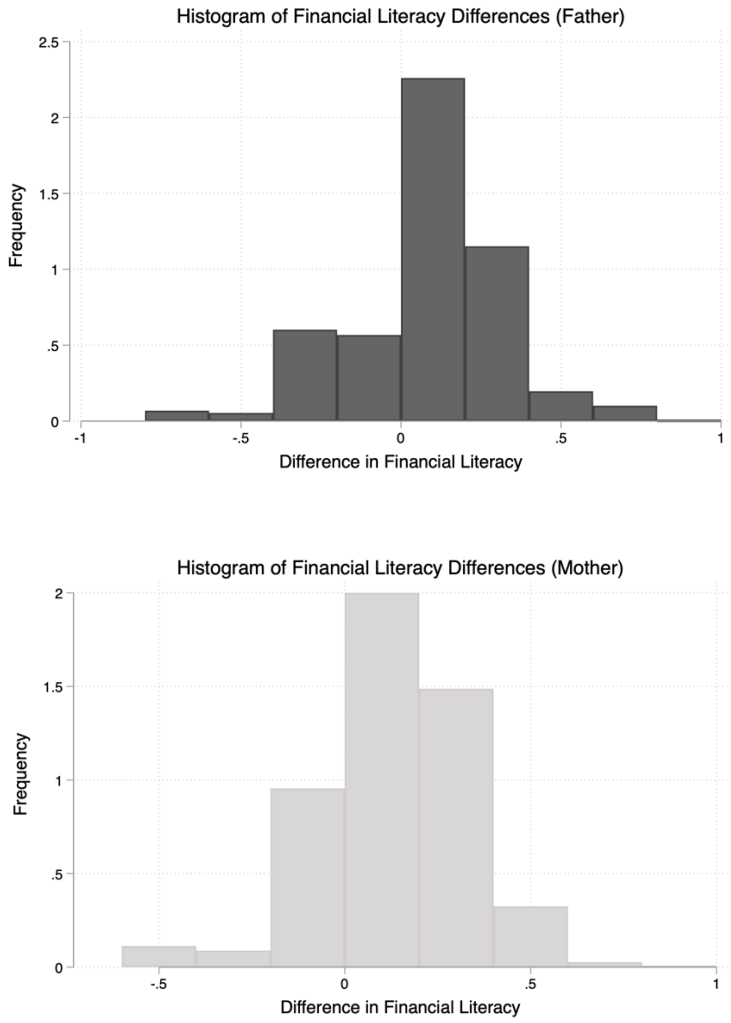


Figure 8. The Histogram of Difference Family Financial Literacy Index

Source: Author, 2024

The slower improvement in parents' financial literacy suggests that their existing knowledge remains relatively unchanged, but it still plays a crucial role in shaping their children's financial skills. Fathers have a slightly stronger impact, though both parents contribute to the intergenerational transmission of financial knowledge. The differences between generations indicate that while parental literacy is important, children's financial knowledge grows faster, possibly due to other contributing factors.

Between 2007 and 2014, the rate of improvement in financial literacy varied across family members, with the mother showing the most significant growth. Children's financial literacy increased from 0.287 in 2007 to 0.301 in 2014, a modest improvement of 4.84%. Fathers experienced minimal change, with their financial literacy moving from 0.330 to 0.332, reflecting a very small rate of improvement of just 0.64%, suggesting stability rather than growth. In contrast, mothers exhibited the largest improvement, with their financial literacy rising from 0.425 to 0.461, achieving an 8.47% increase. This indicates that, over the period, mothers made the most progress in financial literacy, followed by children, while fathers remained relatively static in their financial knowledge.

The histogram above supports the hypothesis that parental socioeconomic factors mediate the transmission of financial literacy. Children's financial literacy improves significantly over time,

suggesting that their financial education is enriched by their parents' knowledge and broader socioeconomic conditions, such as education and income levels. This trend indicates that while parental influence remains strong, external factors further enhance the effectiveness of intergenerational financial literacy transfer.

To further understand the parent-child relationship, we project the margin of financial literacy. Examining the effect of fathers' financial literacy, the first parental margin chart (Figure 9) shows a clear relationship between fathers' and children's financial literacy. The "Adjusted value" line shows a clear upward trend, implying that as fathers' financial literacy increases, so does their children's financial literacy. However, the "Median spline" line, which captures more nuanced changes, shows that this effect is not entirely smooth. It shows a sharper increase around the middle of the fathers' financial literacy scale (0.4 to 0.6), followed by a slight decline. This fluctuation suggests that while fathers' financial literacy has a positive effect on children, the effect may vary at different literacy levels, perhaps due to different socioeconomic or family dynamics that affect fathers' ability to share financial knowledge consistently.

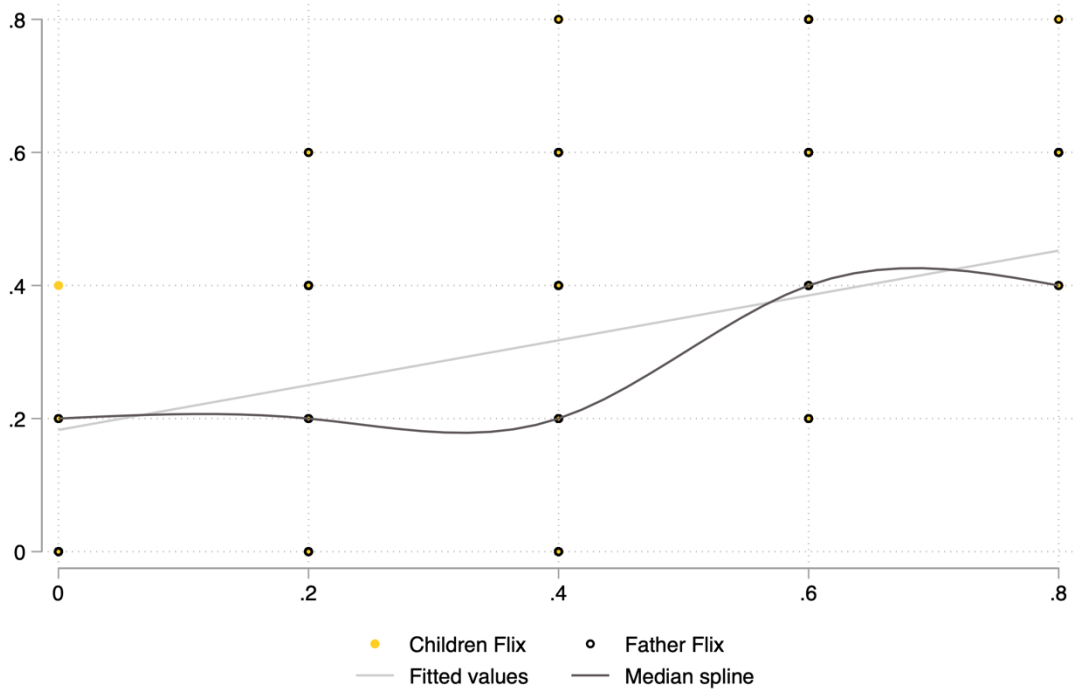


Figure 9. Margin of Financial Literacy within Children and Father

Source: Author, 2024

Compared to other variables, the margin chart in Figure 10, centered on mothers' financial literacy, indicates a more consistent and smoother impact on children's financial literacy. The chart's "Adjusted Value" and "Median Spline" lines consistently rise, indicating that when mother enhance their financial literacy, their children's financial literacy correspondingly increases. This consistent and dependable pattern suggests that women's financial literacy skills are mirrored in their children's competencies, signifying a clear correlation between the two.

The pronounced, sustained upward trajectory depicted in the graphic indicates that mother likely exert a significant influence on their children's financial literacy, potentially offering ongoing advice and education. The consistent effect suggests maternal involvement in financial exchanges and collaborative learning activities cultivates a lasting influence. This may result from regular financial transactions, educational opportunities at home, or organized programs that enable

youngsters to see and engage in financial decision-making, thus enhancing their learning more effectively and lasting.

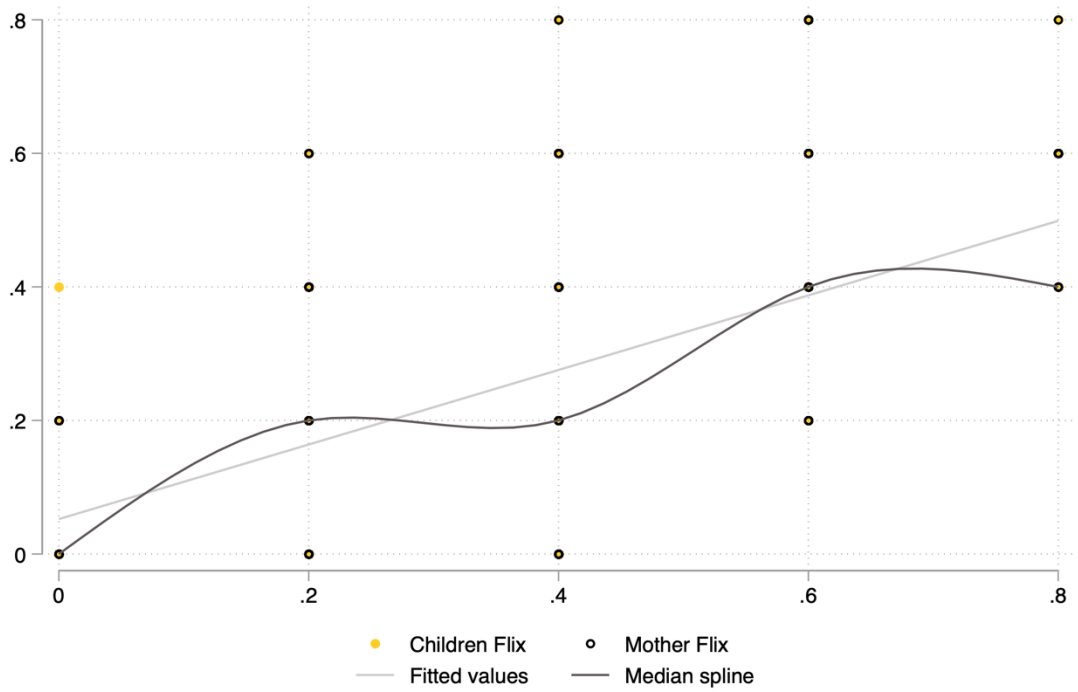


Figure 10. Margin of Financial Literacy within Children and Mother

Source: Author, 2024

Both graphs emphasize the unique contributions that mothers and fathers make to their children's financial literacy, with significant variations in consistency and impact. Fathers' financial literacy exhibits a positive impact; however, it is significantly more variable, indicating that the impact of their financial skills on children may fluctuate in response to external factors or situational contexts. This fluctuation suggests that dads' contributions to financial literacy are context-dependent and influenced by particular discussions or sporadic financial circumstances, hence offering a valuable yet intermittent impact on their children's comprehension of financial concepts.

Conversely, mothers' financial literacy exhibits a more consistent and stable influence on their children's financial education, as evidenced by the graphs indicating reduced variability and a more direct, linear correlation. This consistency indicates that mother may provide a more enduring and systematic form of instruction through frequent financial exchanges or collaborative learning experiences in everyday life. This disparity in influence underscores the necessity of a balanced approach to financial education within families, wherein the unique styles of both parents contribute to a comprehensive foundation of financial literacy. The lasting influence of mothers may highlight the efficacy of regular, daily education in financial concerns, emphasizing the need to develop financial skills within the familial context.

4.3 Result of The Model Analysis

4.3.1 First Model: Panel Data Analysis

An analysis of the demographic and socioeconomic factors that influence intergenerational financial literacy in children through parental influence in Indonesia is conducted using a panel data analysis. The panel data from 2007 to 2014 provides robust evidence of the causal relationships parents and children. Two common techniques in panel data analysis are the Fixed Effects (FE) and Random Effects (RE) techniques.

Table 4. Estimation of Children's Financial Literacy Determinants Using Fixed and Random Effects Models

VARIABLES	Fix Effect flix_chd	Random Effect flix_chd
flix_fth	0.521***	0.365***
	(0.0209)	(0.0138)
flix_mth	0.231***	0.295***
	(0.0197)	(0.0138)
loc	0.00986	0.00868***
	(0.00793)	(0.00335)
sex_chd	0.0204***	0.0285***
	(0.00505)	(0.00300)
age_chd	0.00123**	0.000117
	(0.000502)	(0.000306)
age_fth	0.00120***	0.000588**
	(0.000464)	(0.000258)
age_mth	-0.000770	0.000407
	(0.000498)	(0.000276)
income_fth_ln	0.000308	-0.000878
	(0.000697)	(0.000537)
income_mth_ln	0.00180***	0.00112**
	(0.000626)	(0.000474)
loans_hh_ln	0.00159***	0.00206***
	(0.000425)	(0.000319)
islam_fth	-0.163***	-0.0671***
	(0.0142)	(0.00737)
islam_mth	-0.0785***	0.0105
	(0.0163)	(0.00721)
java_fth	-0.0239**	-0.0116**
	(0.0102)	(0.00519)
java_mth	-0.00288	0.0134***
	(0.0111)	(0.00486)
unpaidfamwork_fth	0.0176	0.0330
	(0.0268)	(0.0210)
selfemploy_fth	0.0182	0.00526
	(0.0168)	(0.0132)
govwork_fth	-0.0144	-0.00183
	(0.0221)	(0.0158)
agri_fth	-0.0151	0.00345

	(0.0307)	(0.0242)
casual_fth	0.00201	0.00991
	(0.0274)	(0.0214)
unpaidfamwork_mth	-0.0327	-0.00540
	(0.0219)	(0.0172)
selfemploy_mth	-0.0103	-0.00434
	(0.0184)	(0.0141)
govwork_mth	-0.0486	0.0170
	(0.0372)	(0.0245)
agri_mth	-0.0525	-0.0487
	(0.0382)	(0.0301)
casual_mth	-0.0245	0.00128
	(0.0273)	(0.0209)
primary_chd	0.0887***	0.102***
	(0.0229)	(0.0143)
juniorsec_chd	0.0742***	0.114***
	(0.0228)	(0.0142)
seniorsec_chd	-0.0191	0.0446***
	(0.0228)	(0.0142)
tertiaryedc_chd	-0.00631	0.0522***
	(0.0236)	(0.0147)
primary_fth	-0.0320***	-0.0537***
	(0.0106)	(0.00647)
juniorsec_fth	-0.0331**	-0.0462***
	(0.0131)	(0.00763)
seniorsec_fth	-0.0384***	-0.0529***
	(0.0138)	(0.00761)
tertiaryedc_fth	-0.0493***	-0.0660***
	(0.0188)	(0.00917)
primary_mth	-0.00675	-0.00912*
	(0.00959)	(0.00544)
juniorsec_mth	-0.00177	0.00348
	(0.0126)	(0.00678)
seniorsec_mth	0.000951	-0.00269
	(0.0154)	(0.00724)
tertiaryedc_mth	-0.00959	0.00535
	(0.0203)	(0.00929)
Constant	0.142***	-0.0319
	(0.0379)	(0.0205)
Observations	7,358	7,358
R-squared	0.425	
Number of pidlink	3,679	3,679

Source: Author, 2024.

This study investigates the impact of family demographic and socioeconomic characteristics on children's financial literacy, particularly emphasizing intergenerational transmission channels, as evidenced by the data and analysis presented in Table 5. The findings highlight how children's financial literacy is influenced by their parents socioeconomic background and financial knowledge. The analysis primarily uses a Fixed Effects (FE) model, which was chosen

over a Random Effects (RE) model based on the Hausman test (Appendix 6). This decision was made because the Hausman test indicated significant individual-specific characteristics that could not be ignored in this context. Other test to support this analysis can be found in Appendix 7.

A Fixed-Effects model is particularly appropriate for this study because it allows for the management of unobserved and time-varying characteristics unique to each household. It is important to isolate the impact of parental characteristics on children's financial literacy, ensuring that the estimates accurately reflect causal relationships rather than being influenced by unobserved factors specific to each family. The FE model effectively captures how financial knowledge and behavior are transmitted within families, given the substantial involvement of intergenerational factors in financial literacy.

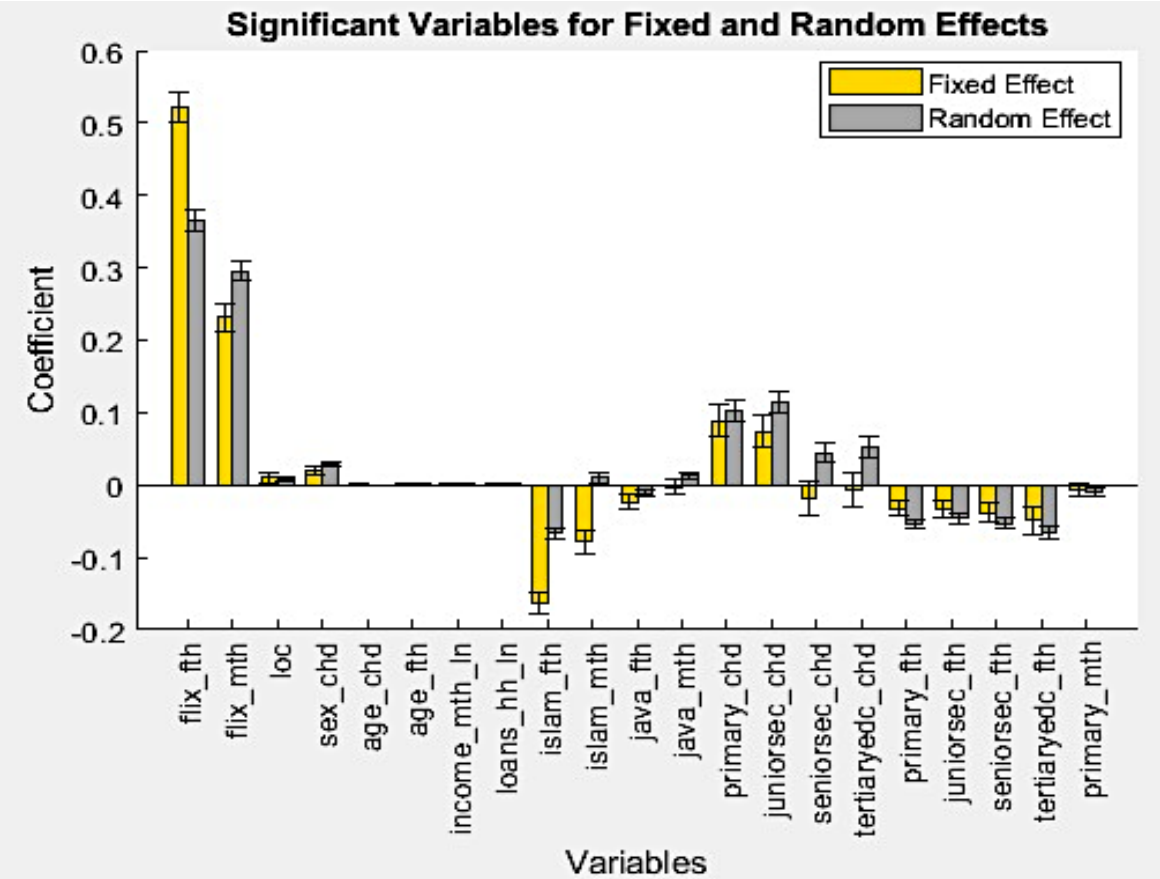


Figure 11. Significant Variables for Fixed and Random Effects

Source: Author, 2024.

The finding (Figure 11) show that the financial literacy of fathers and mothers (represented by the variables flix_fth and flix_mth) significantly influences children's financial literacy. This is consistent with the existing literature on the subject, which shows that family financial literacy is a substantial factor in children's financial literacy development. Notably, the coefficients for flix_fth and flix_mth are statistically significant and high, emphasizing the role of parental influence in the development of children's financial competence. A 1-point enhancement in the father's financial literacy (flix_fth) corresponds to a 0.521 rise in children's financial literacy, whereas the mother's financial literacy (flix_mth) yields a 0.231 increase in children's financial literacy. This is consistent with studies that emphasize the intrinsic nature of financial literacy as a component of human capital developed within the family (Becker & Tomes, 1986; Gudmunson & Danes, 2011). This reinforces the idea that financial literacy is not only taught formally in educational institutions but

also informally within the household, often through the behaviors, attitudes, and knowledge shared by parents.

In addition to financial literacy, other parental attributes, including education, influence children's financial outcomes. The role of formal schooling in developing basic financial skills is reflected in the positive correlation between financial literacy and children's level of formal education, as indicated by the variables primary_chd and juniorsec_chd.

Indonesian formal educational programs on the primary level until junior secondary have a mandatory extracurricular national program called *Pramuka*[3] (Praja Muda Karana), or in English, known as scouting. Every Wednesday, student should wear a scouting uniform, and it is mandatory to finish their school time by gathering with their scouting group. One of the weekly activities is reporting their "scouting diary". One of the main activities of the report is how much that student can "saving" on the previous week. Indirectly, on their self-report, they already learned about saving, and the most important thing is that they have a pattern of behaviour of saving. The nominal savings they will report and how they set a daily set aside will be counted. According to this example, early education students have a high financial literacy. Compared to those who currently or already past the primary level or enrolled in higher education, they may already be inclusive but not literate or forget the basic knowledge.

However, the negative coefficients observed for certain parental education variables (example; primary_fth, juniorsec_fth) are an unexpected finding. These negative values suggest financial literacy is not always positively correlated with higher parental education levels, especially for fathers. One possible explanation is the existence of intergenerational disparities: educational curricula from previous decades may not have included financial literacy, which may have led to outdated financial knowledge among parents that cannot be effectively transferred to current financial practices.

Alternatively, these findings may indicate differences in the emphasis placed on financial behaviors across family structures, with certain parents potentially relying on antiquated financial practices that may inadvertently hinder their children's understanding of contemporary financial concepts. The analysis is also significantly influenced by religious and cultural factors. The negative coefficients associated with religious variables, including islam_fth and islam_mth, suggest that financial literacy may be at odds with certain religious or cultural practices. This finding may indicate that financial literacy is influenced by values and norms that prioritize different financial behaviors than secular household behaviors in religious households.

There is a potential difference between religious education and financial literacy. For example, Islam teaches people to set aside money for Zakat[4] (giving to God throughout the mosque's management), which is equal to 2.5% of the total wealth. Only the "eligible" Muslim is required to pay in the holy Quran. But in the Indonesian case, even though you are living under the standard of living, when you are very religious, you will pay for it.

This is an example of the contradictory ability of financial literacy. The formula of financial literacy is to fulfil the need first, followed by the unnecessary. But for those who are religious, their relationship with their God is more important than food that they can eat or electricity that they can pay. The religious people's faithfulness sometimes contradicts the knowledge of financial literacy. In other words, religious education and financial literacy may arise because certain religious teachings on wealth, spending, and saving differ from traditional financial literacy principles. This necessitates a deeper examination of how religious values impact financial literacy and highlights the importance of culturally and religiously aware financial education programs.

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[3] Pramuka or Praja Muda Karana (Indonesian Scouting Movement) was mandatory from 2006 until 2024. This is being regulated under Law No 12 Year 2010 concerning the Scout Movement. *Sources:* https://pramuka.or.id/uu-gerakan-pramuka/.

[4] Zakat is almsgibing one of the five pilars of Islam. This means that Zakat is mandatory for Muslims. *Sources*: https://islamic-relief.org/zakat.

The results also support the hypothesis that parents' financial literacy is important in developing their children's financial literacy. This supports Hypothesis 1 (H1), which suggests that parents' socioeconomic factors positively influence children's financial literacy. Strong transmission of financial knowledge from parents to children is indicated by a significant positive coefficient for parents' financial literacy. This illustrates the development of human capital in financial literacy within the family. The FE model suggests a possible causal pathway whereby increased financial literacy in children results from higher parental financial literacy, thereby strengthening the theory of intergenerational knowledge transmission. This insight is consistent with research showing that children acquire financial competence by observing and imitating their parents' financial behavior, particularly within the family context (Park, 2003; Johar & Maruyama, 2011).

4.3.2 Second Model: Parental Education as a Mechanism of Transmission

The first model effectively demonstrates the influence of parents on a child's financial literacy. However, the majority indicates a negative or negligible correlation between financial literacy and formal schooling. Testing the second model is essential for acquiring deeper insights. The current stages investigate the hypothesis that parental education directly and substantially influences children's financial literacy (Hypothesis 2, H1). To address this inquiry, the analysis employs a model that incorporates numerous independent variables, including parental education level and financial literacy, as well as children's financial literacy (flix_chd) as the dependent variable.

Furthermore, the investigation employs the "channeling" methodology to investigate the extent to which the financial literacy of parents is passed down to their offspring (Cole et al., 2011; Lusardi & Mitchell, 2011). The concept of "channeling" is introduced in this approach, distinguishing it from conventional regression models. In this context, "channeling" denotes the process by which formal education is used to transfer the financial literacy of parents to their offspring. Rather than their formal education level, the model implies that the financial literacy of parents is more significant in the transmission of financial capabilities.

Research has demonstrated that cultural factors also influence the dissemination of financial knowledge within families, with the transmission of financial literacy being influenced by various cultural contexts (Baggio & Papyrakis, 2010; Gudmunson & Danes, 2011). The examination is conducted in three distinct phases. In Step 1, the study examines the impact of independent variables, such as parental income and financial literacy, on mediators, specifically fathers' education level. This helps to establish the underlying relationship between parental factors and educational outcomes (Becker & Tomes, 1986; Atkinson, 1987).

Step 2 investigates the impact of fathers' educational backgrounds on the financial literacy of the next generation, emphasizing the fact that various factors directly influence these backgrounds (Becker et al., 2018). As a mediator, fathers' educational levels are examined. Lastly, the Bootstrap phase involves the application of tests to evaluate the indirect impact of a father's education on children's financial literacy. This process involves using 1000 replications to ensure that the results are not merely a result of fluctuations in random sampling (Wu, 1986). In Table 6, we can observe the results at various stages (Step 1, Step 2, and Bootstrap) about the influence of the direct financial literacy variable and the parental education level on the financial literacy of children (flix_chd). The parental education variable for fathers encompasses a variety of levels, including primary_fth, juniorsec_fth, seniorsec_fth, and tertiary_fth. It is the same for mothers.

Table 5. Educational Parents as Channeling Transmission

	Father			Mother		
	Step 1	***Step 2***	***Bootstrap***	***Step 1***	***Step 2***	***Bootstrap***
Variables	*tetiaryedc_fth*	*flix_chd*	*flix_chd*	*tetiaryedc_mth*	*flix_chd*	*flix_chd*
flix_fth	0.0959***		0.350***			0.308***
	(0.0115)		0.0149)			(0.0143)
flix_mth			0.302***	0.0232*		0.327***
			(0.0151)	(0.0130)		(0.0154)
loc			0.00450			0.00232
			(0.00340)			(0.00342)
income_fth_ln			-0.00106**			-0.00128***
			(0.000528)			(0.000498)
income_mth_ln			0.00108**			0.00109*
			(0.000537)			(0.000558)
loans_hh_ln			0.00174***			0.00169***
			(0.000368)			(0.000373)
islam_fth			-0.0519***			-0.0965***
			(0.00761)			(0.00703)
islam_mth			0.00326			0.0421***
			(0.00697)			(0.00718)
java_fth			-0.0119*			-0.0145**
			(0.00627)			(0.00620)
java_mth			0.0122**			0.0151***
			(0.00564)			(0.00579)
primary_fth		0.00948*	-0.0651***			
		(0.00508)	(0.00712)			
juniorsec_fth		0.0148**	-0.0662***			
		(0.00674)	(0.00771)			
seniorsec_fth		0.0199***	-0.0755***			
		(0.00617)	(0.00771)			
tertiaryedc_fth		0.00897	-0.0867***			
		(0.00834)	(0.00888)			
tertiaryedc_mth					0.0104	-0.0415***
					(0.00981)	(0.00831)
primary_mth					0.00249	-0.0350***
					(0.00580)	(0.00570)
juniorsec_mth					0.0165**	-0.0338***
					(0.00722)	(0.00686)
seniorsec_mth					0.00901	-0.0439***
					(0.00733)	(0.00679)

Constant	0.0411*** (0.00554)	0.285*** (0.00412)	0.123*** (0.00806)	0.0452*** (0.00666)	0.289*** (0.00519)	0.105*** (0.00799)
Observations	7,358	7,358	7,358	7,358	7,358	7,358
Number of pidlink	3,679	3,679	3,679	3,679	3,679	3,679
Overall R-sq	0.00908	0.00203	0.357	0.00149	0.00119	0.350

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Parental education levels, as defined by formal schooling (such as secondary or tertiary education), appear to have little or no effect on children's financial literacy, according to the findings of Step 2 and the Bootstrap analyses. Higher education levels in fathers (indicated by the variable tertiaryedc_fth) exhibit a weak or inconsistent correlation with children's financial literacy. In contrast, indicators of secondary education (such as juniorsec_fth and seniorsec_fth) are linked to negative results, and some variables are not statistically insignificant coefficients. This pattern suggests that formal parental education may not significantly enhance children's financial literacy as previously assumed. These data indicate that the formal educational accomplishments of parents may not immediately correlate with their children's financial literacy.

The second hypothesis that children would be more financially literate if their parents had greater educational attainment is called into question by this finding. Children's financial literacy is more influenced by actual financial knowledge and household behaviors than by their parents' formal educational achievement. Research substantiates this differentiation, indicating that focused financial literacy assistance rather than conventional education is essential for stabilizing financial results, particularly in low-income households amid economic instability (Sparrow, 2007; Suryahadi et al., 2012). Practical financial abilities, as opposed to academic qualifications, appear to exert a more direct and significant influence on the development of children's financial habits and comprehension.

The study reveals that these variables exhibit robust, positive coefficients, indicating that financially literate parents are more inclined to impart financial knowledge and abilities to their offspring. This dissemination of financial literacy corresponds with the concept of "*intergenerational channelling*," wherein practical financial skills are proficiently transmitted from parents to offspring. Research by Lanjouw et al. (2002) demonstrates that public expenditure on education has diverse effects and does not consistently cultivate practical skills in homes, highlighting that the financial actions of parents may equip children with more effective financial tools than formal schooling.

Rather than relying merely on formal educational levels, these results underscore the significance of practical financial behavior within families in developing intergenerational financial literacy. Lusardi and Mitchell (2011) assert that financial literacy gained through experiential learning and parental guidance equips youngsters with essential abilities for personal money management. Practical skills better prepare youngsters to address financial difficulties and make educated economic decisions than standard educational methods alone.

Furthermore, financial literacy gained via familial practices influences economic results and aspects like subjective well-being. The increasing of subjective well-being potentially improving life satisfaction (Baggio & Papyrakis, 2014). Parental financial acumen may serve a dual purpose, training children with financial abilities while enhancing their general life pleasure and resilience. The "channelling" methodology, coupled with 1000 bootstrap replications, enhances the robustness of these findings, offering a comprehensive picture of how parental financial literacy influences children's economic and personal well-being. The research highlights the significance of practical financial knowledge as a crucial factor for intergenerational literacy, indicating wider ramifications for economic stability and well-being in subsequent generations.

4.3.3 Third Model: Parental Occupation as a Mechanism of Transmission

The third model investigates how parental occupation, and socioeconomic factors influence children's financial literacy, providing insights into the intergenerational transmission of financial knowledge. The separation of father and mother in analysis is purposedly to have a gender dynamic perspective in parental roles. Employing the Step 1, Step 2, and Bootstrap methodologies to examine the influence of parental occupation on children's financial literacy.

Step 1 offers preliminary estimates, but Step 2 enhances them with supplementary controls to delineate causal effects. The Bootstrap approach, executed 1,000 times, resamples the data to produce dependable estimates of standard errors and confidence intervals, so ensuring the robustness and stability of the outcomes. This methodology improves the precision of results by considering both observable and unobservable variables.

The main finding of the third model (Table 6) is the direct effect of parental financial literacy on children's financial knowledge. Specifically, a 1-point increase in fathers' financial literacy results in a significant increase of 0.288 in children's financial literacy index. Similarly, mothers' financial literacy has a positive, albeit slightly smaller, effect on children's financial literacy, with an increase of 0.289. These findings highlight the important role that both parents' financial knowledge plays in shaping their children's understanding of finance, underscoring the importance of financial education in the household.

Table 6. Occupation Parents as Channeling Transmission

	Father			**Mother**		
	Step 1	**Step 2**	**Bootstrap**	**Step 1**	**Step 2**	**Bootstrap**
Variables	*selfemploy_fth*	*flix_chd*	*flix_chd*	*selfemploy_mth*	*flix_chd*	*flix_chd*
flix_fth	0.00973		0.288***			0.289***
	(0.00620)		(0.0142)			(0.0143)
flix_mth			0.338***	-0.00127		0.337***
			(0.0150)	(0.00784)		(0.0148)
loc			-0.00119			-0.00156
			(0.00325)			(0.00327)
income_fth_ln			-0.00148***			-0.00132***
			(0.000573)			(0.000508)
income_mth_ln			0.000938*			0.000917
			(0.000562)			(0.000583)
loans_hh_ln			0.00154***			0.00152***
			(0.000384)			(0.000361)
islam_fth			-0.0869***			-0.0865***
			(0.00702)			(0.00707)
islam_mth			0.0260***			0.0258***
			(0.00667)			(0.00689)
java_fth			-0.0140**			-0.0143**
			(0.00600)			(0.00602)
java_mth			0.0137**			0.0136**
			(0.00566)			(0.00557)
unpaidfamwork_fth		0.0379	0.0403			

		(0.0269)	(0.0252)			
selfemploy_fth		0.00608	0.0186			
		(0.0165)	(0.0147)			
govwork_fth		0.00947	0.00420			
		(0.0186)	(0.0174)			
agri_fth		-0.0141	0.0181			
		(0.0307)	(0.0235)			
casual_fth		-0.0109	0.00562			
		(0.0273)	(0.0215)			
selfemploy_mth					0.00245	0.00196
					(0.0177)	(0.0145)
unpaidfamwork_mth					-0.00998	0.00145
					(0.0220)	(0.0234)
govwork_mth					0.0461	0.0215
					(0.0306)	(0.0365)
agri_mth					-0.0215	-0.0226
					(0.0380)	(0.0374)
casual_mth					0.0231	0.00114
					(0.0263)	(0.0292)
Constant	0.00915***	0.294***	0.0847***	0.0114***	0.294***	0.0857***
	(0.00242)	(0.00205)	(0.00685)	(0.00362)	(0.00204)	(0.00726)
Observations	7,358	7,358	7,358	7,358	7,358	7,358
Number of pidlink	3,679	3,679	3,679	3,679	3,679	3,679
Overall R-sq	0.000335	0.000335	0.345	6.06e-06	0.000680	0.344

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Author, 2024

Parental income also appears to have an influence, although the effect is more pronounced for mothers. A 1% increase in maternal income is associated with a 0.00180 increase in children's financial literacy. In contrast, paternal income shows a much smaller effect, with a 1% increase in paternal income only corresponding to a 0.000308 increase in children's financial literacy. This suggests that mothers, in this case, may have a more direct role in fostering their children's financial literacy due to their greater involvement in the household's day-to-day financial decisions or educational practices. Parental employment, particularly fathers, also play a role in passing on financial literacy to children. Self-employed fathers do not have any effect on children's financial literacy, even with a coefficient of 0.0182. This suggests that the entrepreneurial mindset and financial decision-making skills fails to influence their children's financial education.

As a result, any occupation or employment of parents failed to contribute to increasing children's financial literacy capability. They do not have any statistical significance to the dependent variable. The coefficient for both the father's and the mother's self-employment statuses is close to zero. This suggested that parents' employment status does not affect children's financial

knowledge meaningfully. In other words, king parents may need more time to share or discuss money with their children. A deeper investigation into this is essential to see working parents' impact on their homegrown finance discussion. The findings of Research Question 3 emphasize the impact of parental occupation on children's financial literacy, indicating that the type of employment that parents hold cannot significantly influence a child's comprehension of financial concepts.

Parents' financial acumen, influenced by their professional experiences and possibly augmented by the income stability or unpredictability of their careers, seems to underpin the transmission of financial literacy. This corroborates Hypothesis 3 (H1), which asserts that parental employment status and role-specific financial competencies substantially influence the financial comprehension that children acquire. These observations suggest that children may be exposed to unique financial strategies and behaviors as a result of their occupational experiences, including self-employment, government work, or other professional responsibilities, which can enhance their practical knowledge. Thus, the study underscores the necessity of cultivating financial literacy among families and advocating for financial education programs that involve both children and parents. By addressing both generations, such initiatives could foster enduring enhancements in household financial decision-making, thereby augmenting financial stability and resilience across generations.

In the long term, this intergenerational approach to financial education could result in a more financially literate society, where both individual households and broader communities benefit from enhanced economic decision-making and financial well-being. Models two and three provide similar findings regarding the influence of parental gender on children's financial literacy, indicating that both fathers and mothers contribute to their children's financial comprehension, with a marginal focus on paternal influence. Conventional gender roles typically designate dads as the principal decision-makers in financial and economic affairs, whereas mothers are more commonly linked to daily financial management and caregiving (York, Loeb and Doss, 2019; Chen & Sun, 2023). These roles delineate the channels via which financial knowledge and attitudes are conveyed, with fathers generally impacting children's financial decision-making and autonomy. At the same time, mother impart practical skills and quotidian financial habits.

The study findings indicate that mother directly influence children's financial literacy through regular discussions and managing household expenses, providing practical lessons that enhance financial awareness. The literature also suggests that mothers are critical in transmitting financial knowledge, particularly through everyday financial interactions (Heilmann, 2013; Fakhrunnisak & Prihatini, 2022). Children may observe and learn from household financial management, which is often the responsibility of mothers. This suggests a more hands-on form of financial socialization. Fathers, in contrast, exercise a more indirect impact, as their professional roles and income serve as a paradigm of financial accountability and foresight. This indirect effect can mold children's views on financial independence and the significance of career-related financial security, even without formal financial conversations. These positions illustrate a complementary dynamic rather than a hierarchical one, with each parent independently contributing to a balanced and thorough financial education for their children. This interaction enables children to acquire practical financial skills and a long-term outlook on homegrown financial responsibility, equipping them with a comprehensive grasp of financial literacy.

Chapter 5
Conclusion

5.1 Conclusion and Policy Recommendation

This study utilizes longitudinal panel data from 2007 to 2014 to gain insight into Indonesia's intergenerational transmission of financial literacy. Through three primary research questions, the investigation investigates the impact of demographic factors, urban-rural location disparities, socioeconomic dynamics, and parental gender dynamics on children's financial literacy. The primary findings indicate that mothers and fathers serve critical but mutually reinforcing roles in financial socialization. Mothers offer direct financial management advice, while fathers provide indirect models of financial responsibility.

These dynamics underscore the significance of the human capital of both parental roles without implying superiority, as each makes a unique contribution to a comprehensive financial education. Mothers were designated as the most influential actors in everyday financial socialization, which is consistent with traditional gender roles that prioritize household management and parenting. Nevertheless, the significance of both roles in developing financial literacy through various channels was underscored by the fact that fathers' involvement in financial decision-making exposed children to broader financial concepts. These results underscore the necessity of culturally pertinent and locally rooted policies to enhance financial literacy in Indonesia, with a particular emphasis on rural communities and mothers, to mitigate disparities. The location disparities show that urban located children generally benefit from more accessible financial institutions than their rural peers, as the study discovered that parental income, education, and occupation were significant socioeconomic factors influencing children's financial literacy.

The findings indicate that formal education is insufficient to improve financial literacy. Intergenerational disparities in national education curricula also contribute to this negative result. Therefore, implementing a national financial syllabus through it is ineffective. Through financial education, this study suggests that parents particularly mother who have a more direct influence should be given the tools they need to improve their kids' human capital and foster resilience and flexibility in Indonesia's changing economic landscape the ramifications for financial literacy policies. In other words, the anti-financial taboo policy that requires investigation in Indonesia to ensure long term consumer protection in the financial sector is the enhancement of financial literacy at the household level. Homegrown can expand if the mother empowerment program is strengthened and rural-urban disparities are addressed through the community.

5.2 Limitation and Future Research Directions

Future research should address the numerous limitations of this investigation. The study could not comprehensively investigate age disparities in the transmission of financial literacy, indicating a necessity for longitudinal research that follows financial literacy from childhood into adulthood. The geographic representation, especially in rural areas, was restricted; broadening the scope to encompass additional rural regions could yield significant insights. Third, the study merely addressed the impact of cultural and religious backgrounds on financial literacy, necessitating further investigation.

The study emphasized the crucial role of mothers in the transmission of financial literacy; nevertheless, additional research is required to elucidate the socioeconomic aspects affecting gender roles in financial decision making. To more accurately evaluate the causal impact of parental financial literacy on children's literacy, future studies may implement instrumental variables (IV), which would mitigate any endogeneity present in the current panel data.

5.3 Research Contribution

In summary, this investigation offers valuable insights into the intergenerational transmission of financial literacy in Indonesia, particularly emphasizing the influence of cultures, socioeconomic factors, and parents. Although not all research topics were comprehensively addressed, the findings establish a robust basis for formulating effective financial literacy programs and policies. Ongoing studies, especially on age related financial literacy development, gender dynamics, and rural-urban inequities, will enhance our comprehension of these matters in a continually changing financial environment.

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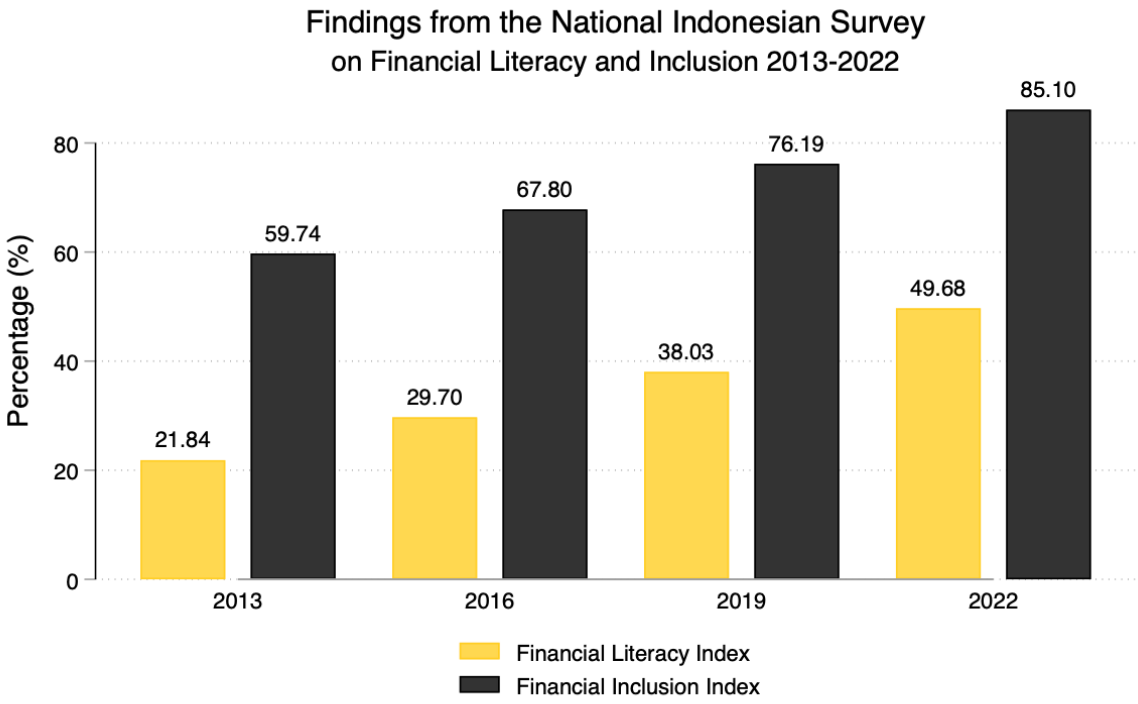
Appendix

Appendix 1. Indonesia Financial Literacy and Inclusion Index, Percentage (%) of the Population



Source: OJK 2022, adapted by author.

Appendix 2. Classification of Indonesian Provinces for IFLS Wave 4 and IFLS Wave 5

58

Table 2.2 Household Samples and Completion Rates, IFLS1-5 *(continued)*

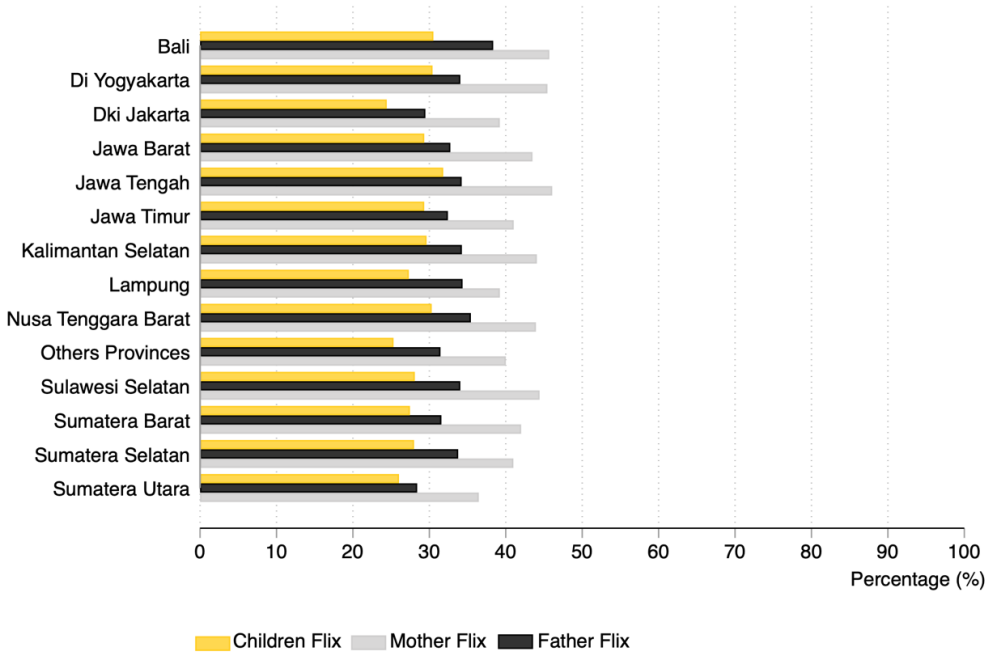
		1990 Population			IFLS 1 HH Ivwd	IFLS4 Households					IFLS5 Households					Dynasties contacted	
						Interviewed, died, or joined other hh					Interviewed, died, or joined other hh						
	Provinces [a]	N(000)[b]	%	IFLS EAs		% IFLS1 HH[c]	# IFLS1 HH[d]	Any split-off HH	Total	Inter-viewed	% IFLS1 HH	# IFLS1 HH	Any split-off HH	Total	Interviewed	#	%
11	Aceh	3,476	1.9														
12	**North Sumatra**	10,391	5.7	26	563	87.6	493	532	1025	998	86.1	483	899	1,382	1,335	497	88.3
13	**West Sumatra**	4,041	2.2	14	351	89.5	314	421	735	714	88.7	305	542	847	791	321	91.5
14	Riau	3,372	1.9														
15	Jambi	2,059	1.1														
16	**South Sumatra**	6,403	3.5	15	349	86.2	301	435	736	712	85.5	295	620	915	882	308	88.3
17	Bengkulu	1,213	0.7														
18	**Lampung**	6,108	3.4	11	274	93.4	256	329	585	569	94.1	257	503	760	733	263	96.0
31	**DKI Jakarta**	8,352	4.6	40	731	75.4	551	637	1,188	1,147	68.5	492	748	1,240	1,170	540	73.9
32	**West Java**	35,973	19.8	52	1,111	93.4	1,038	1,227	2,265	2,207	90.7	991	1,643	2,634	2,496	1,035	93.2
33	**Central Java**	28,733	15.8	37	878	95.7	840	973	1,813	1,733	97.8	846	1,410	2,256	2,164	860	97.9
34	**DI Yogyakarta**	2,923	1.6	22	478	91.0	435	382	817	786	89.2	420	542	962	926	430	90.0
35	**East Java**	32,713	18.0	45	1,044	96.6	1,009	932	1,941	1,869	96.3	992	1,318	2,310	2,204	1,015	97.2
51	**Bali**	2,798	1.5	14	340	92.9	316	330	646	625	92.6	313	485	798	765	318	93.5
52	**West Nusa Tenggara**	3,416	1.9	16	407	98.0	399	484	883	858	99.8	400	786	1,186	1,147	406	99.8
53	East Nusa Tenggara	3,306	1.8														
54	East Timor	762	0.4														
61	West Kalimantan	3,292	1.8														
62	Central Kalimantan	1,431	0.8														
63	**South Kalimantan**	2,636	1.5	13	323	93.8	303	376	679	653	91.9	294	475	769	739	302	93.5
64	East Kalimantan	1,930	1.1														
71	North Sulawesi	2,504	1.4														
72	Central Sulawesi	1,735	1.0														
73	**South Sulawesi**	7,045	3.9	16	375	90.9	341	341	682	664	92.5	344	527	871	852	352	93.9
74	Southeast Sulawesi	1,382	0.8														
81	Maluku	1,885	1.0														
82	Irian Jaya	1,671	0.9														
	Total	1,548	100.0	321	7,224	91.3	6,596	7399	13,995	13,535	90.2	6,432	10,498	16,930	16,204	6,647	92.0

a. Boldface denotes IFLS provinces in 1993. In 1999, East Timor voted for independence from Indonesia and became the soverign state of Timor Leste. Also since 1999, a number of new provinces has been formed.
b. Source of population number is the BPS 1990 Population Census.
c. The percentage is out of IFLS1 HH with at least some members living in the last survey.
d. Includes IFLS1 HH whose members had all died or joined other IFLS households by the time of the survey.

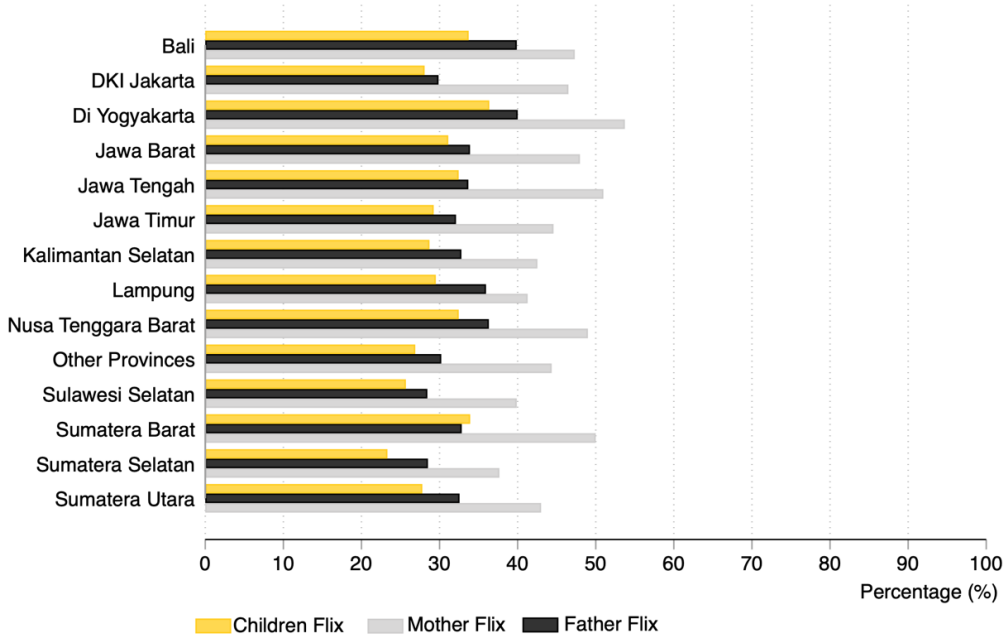
Source: Strauss, J., Witoelar, F., & Sikoki, B. (2016).

Appendix 3. The Percentage Average of Financial Literacy Index Year 2007 and 2014 within Provinces

2007

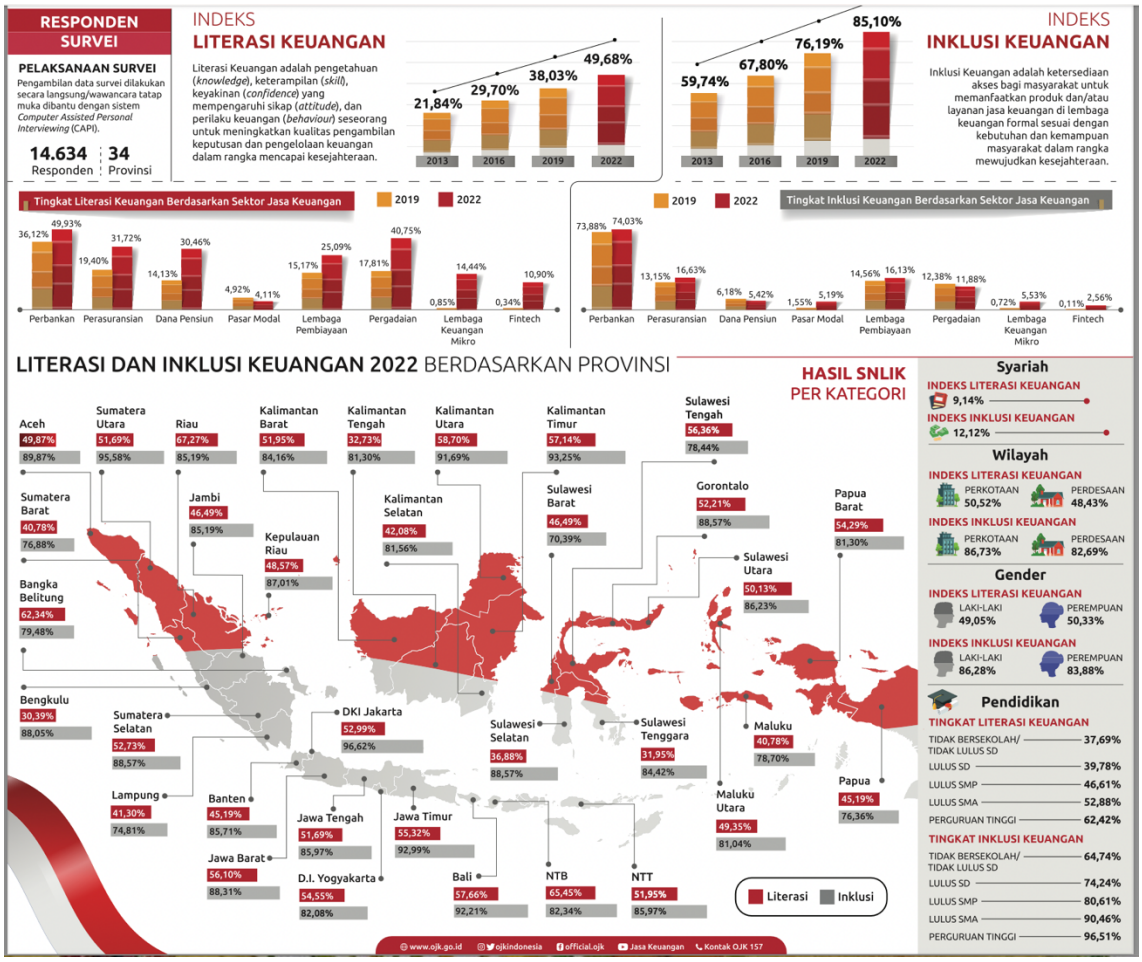


2014



Source: Author, 2024

Appendix 4. Infographic of Indonesian Financial Literacy and Inclusion

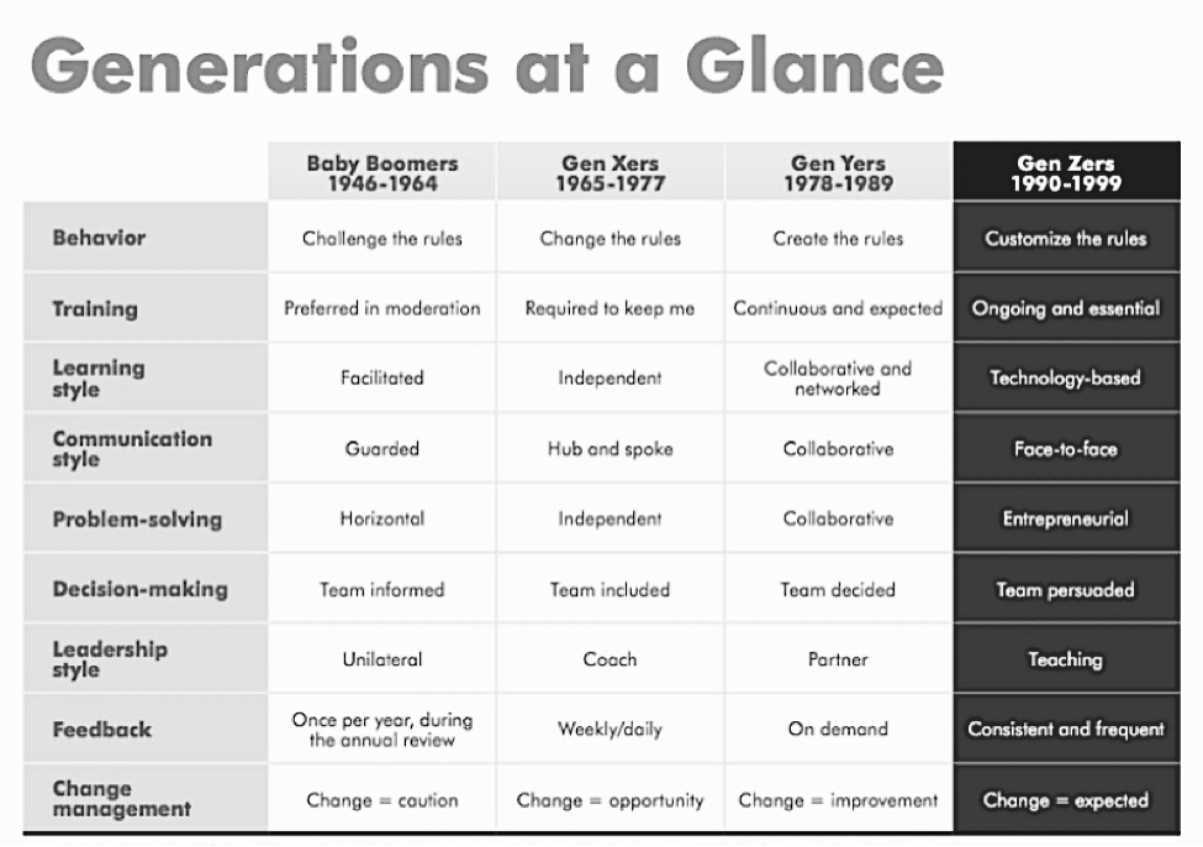


Source: OJK, 2022

Appendix 5. Type of Generation to Define the Children Group

Children Group by Age	Birth of Year (2014)	Birth of Year (2007)	Type of Generation
Early Adolescent (12-14)	2003-2001	1995-1993	Gen alpha and Gen Z
Adolescent (15-19)	2000-1996	1992-1988	Gen Z and Gen Y
Young Adults (20-30)	1995-1985	1987-1977	Gen Y
Earlu Adulthood (31-39)	1984-1976	1976-1968	Gen X

Source: Author, 2024



Source: Kristy, J., 2019.

Appendix 6. Hausman Test for First Model

```
. hausman fixed random
```

	Coefficients (b) fixed	(B) random	(b−B) Difference	sqrt(diag(V_b−V_B)) Std. err.
flix_fth	.5214253	.365406	.1560192	.0156916
flix_mth	.2310328	.2949647	−.0639319	.0140612
loc	.0098552	.0086832	.001172	.0071898
sex_chd	.0203947	.0284707	−.008076	.0040582
age_chd	.0012326	.0001167	.0011159	.0003981
age_fth	.001197	.0005876	.0006094	.0003851
age_mth	−.0007701	.0004074	−.0011776	.0004149
income_fth~n	.0003083	−.0008777	.001186	.0004443
income_mth~n	.0018021	.0011181	.000684	.0004083
loans_hh_ln	.0015949	.0020595	−.0004646	.0002818
islam_fth	−.1628667	−.0671327	−.095734	.0121867
islam_mth	−.0785492	.0105344	−.0890836	.0145999
java_fth	−.0239205	−.0115565	−.012364	.0087652
java_mth	−.0028803	.0134101	−.0162904	.0099736
unpaidfa~fth	.0175983	.0329633	−.015365	.0166822
selfempl~fth	.0182014	.0052553	.0129461	.0104438
govwork_fth	−.014427	−.0018296	−.0125974	.015411
agri_fth	−.0151363	.0034462	−.0185825	.0189425
casual_fth	.0020143	.0099105	−.0078961	.0170662
unpaidfa~mth	−.0326875	−.0053961	−.0272914	.0136179
selfempl~mth	−.0103201	−.0043434	−.0059767	.0119496
govwork_mth	−.0486418	.0170186	−.0656604	.0280067
agri_mth	−.052485	−.0487232	−.0037619	.0236104
casual_mth	−.0245066	.0012796	−.0257862	.0175368
primary_chd	.0886924	.1015472	−.0128549	.0178638
juniorsec_~d	.0742307	.1141326	−.0399019	.0178825
seniorsec_~d	−.0191377	.0446247	−.0637623	.017852
tertiaryse~d	−.0063079	.0521892	−.058497	.0184348
primary_fth	−.032025	−.053671	.021646	.0084384
juniorse~fth	−.0330527	−.0461912	.0131385	.0106286
seniorse~fth	−.0383875	−.0528584	.014471	.0114706
tertiary~fth	−.0493395	−.0659572	.0166176	.0164136
primary_mth	−.0067531	−.009124	.002371	.0078902
juniorse~mth	−.0017749	.0034849	−.0052598	.0106401
seniorse~mth	.0009513	−.002687	.0036383	.0135958
tertiary~mth	−.0095893	.005353	−.0149423	.0180602

b = Consistent under H0 and Ha; obtained from **xtreg**.
B = Inconsistent under Ha, efficient under H0; obtained from **xtreg**.

Test of H0: Difference in coefficients not systematic

chi2(**36**) = (b−B)'[(V_b−V_B)^(−1)](b−B)
= **291.33**
Prob > chi2 = **0.0000**

Source: Author, 2024

Appendix 7. Additional Test

Detecting Multicollinearity Using Variance Inflation Factors (VIF)

```
. xtreg flix_chd flix_fth flix_mth, fe

Fixed-effects (within) regression               Number of obs      =       7,358
Group variable: pidlink_chd                     Number of groups   =       3,679

R-squared:                                      Obs per group:
     Within  = 0.2855                                         min =           2
     Between = 0.3305                                         avg =         2.0
     Overall = 0.3110                                         max =           2

                                                F(2, 3677)         =      734.67
corr(u_i, Xb) = -0.0766                         Prob > F           =      0.0000

------------------------------------------------------------------------------
    flix_chd | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
    flix_fth |   .2015593   .0164045    12.29   0.000     .1693965    .2337221
    flix_mth |   .4166903   .0194056    21.47   0.000     .3786436     .454737
       _cons |   .0470439   .0068564     6.86   0.000     .0336011    .0604866
-------------+----------------------------------------------------------------
     sigma_u |  .10048881
     sigma_e |  .12165057
         rho |  .40559333   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(3678, 3677) = 1.34                     Prob > F = 0.0000

. vif, uncentered

    Variable |       VIF       1/VIF
-------------+----------------------
    flix_fth |      5.67    0.176292
    flix_mth |      5.67    0.176292
-------------+----------------------
    Mean VIF |      5.67
```

Source: Author, 2024

Detecting Correlation

```
. corr flix_chd flix_fth flix_mth loc sex_chd age_chd age_fth age_mth income_fth_ln income_mth_ln loans_hh_ln islam_fth islam_mth java_
> fth java_mth unpaidfamwork_fth selfemploy_fth govwork_fth agri_fth casual_fth unpaidfamwork_mth selfemploy_mth govwork_mth agri_mth c
> asual_mth primary_chd juniorsec_chd seniorsec_chd tertiarysec_chd primary_fth juniorsec_fth seniorsec_fth tertiarysec_fth primary_mth
>  juniorsec_mth seniorsec_mth tertiarysec_mth
(obs=7,360)
```

	flix_chd	flix_fth	flix_mth	loc	sex_chd	age_chd	age_fth	age_mth	i~fth_ln	i~mth_ln	loans_~n	isla~fth	isla~mth
flix_chd	1.0000												
flix_fth	0.4403	1.0000											
flix_mth	0.5459	0.6158	1.0000										
loc	0.0225	-0.0064	0.0463	1.0000									
sex_chd	0.0798	-0.0076	0.0018	0.0182	1.0000								
age_chd	-0.0677	-0.1712	-0.0778	0.0561	0.0121	1.0000							
age_fth	-0.0692	-0.4703	-0.1098	0.0467	0.0057	0.5375	1.0000						
age_mth	-0.0776	-0.2260	-0.0968	0.0631	0.0075	0.6401	0.6432	1.0000					
income_fth~n	0.0169	0.1005	0.0757	0.0842	0.0054	0.1233	0.1248	0.1450	1.0000				
income_mth~n	0.0542	-0.0035	0.0725	0.1068	-0.0027	0.0482	0.0290	0.0354	0.1050	1.0000			
loans_hh_ln	0.1394	0.1237	0.1527	0.0741	-0.0116	-0.0301	-0.0755	-0.0628	0.0283	0.0589	1.0000		
islam_fth	0.0184	0.5558	0.0827	-0.0421	0.0315	-0.1527	-0.4719	-0.1481	0.0520	-0.0503	0.0109	1.0000	
islam_mth	0.0001	0.0433	0.0339	-0.0059	0.0526	-0.0831	-0.0252	-0.2675	-0.0485	0.0243	-0.0154	0.4160	1.0000
java_fth	0.0248	0.2501	0.0601	-0.0300	0.0033	-0.0059	-0.1644	-0.0154	0.0402	-0.0193	0.0800	0.3737	0.1058
java_mth	0.0391	0.0262	0.0446	0.0043	0.0030	0.0333	0.0302	-0.0432	-0.0098	0.0197	0.0666	0.0817	0.2445
unpaidfa~fth	0.0175	0.0227	-0.0070	-0.0478	0.0089	-0.0468	-0.0629	-0.0506	-0.0141	-0.0100	-0.0220	0.0251	0.0027
selfempl~fth	0.0017	0.0183	-0.0083	-0.0022	-0.0080	-0.0047	0.0176	0.0244	0.1712	0.0003	-0.0054	0.0300	-0.0113
govwork_fth	0.0062	0.0429	0.0303	0.0505	0.0222	0.0894	0.1005	0.0921	0.3821	0.0561	-0.0132	0.0394	-0.0088
agri_fth	-0.0008	0.0110	-0.0128	-0.0005	-0.0095	-0.0195	-0.0223	-0.0064	0.0377	0.0282	-0.0049	0.0288	0.0027
casual_fth	-0.0040	0.0184	-0.0118	0.0034	-0.0176	-0.0324	-0.0436	-0.0347	0.0214	0.0207	-0.0272	0.0244	-0.0101
unpaidfa~mth	-0.0042	0.0073	-0.0159	-0.0353	0.0076	-0.0013	-0.0037	-0.0038	0.0148	-0.0215	-0.0219	0.0024	-0.0016
selfempl~mth	0.0004	-0.0231	-0.0024	0.0279	-0.0004	0.0180	0.0231	0.0262	0.0160	0.1523	-0.0119	-0.0401	-0.0021
govwork_mth	0.0216	-0.0176	0.0207	0.0346	0.0044	0.0501	0.0404	0.0578	0.0465	0.1890	0.0057	-0.0259	0.0109
agri_mth	-0.0072	-0.0085	-0.0067	-0.0223	-0.0107	0.0054	0.0115	0.0150	0.0221	0.1023	0.0044	-0.0117	-0.0149
casual_mth	0.0123	0.0046	0.0099	0.0358	-0.0262	-0.0039	0.0055	-0.0076	0.0027	0.1747	0.0044	0.0041	0.0272
primary_chd	0.0337	-0.0072	-0.0487	-0.1749	-0.0275	-0.0239	-0.0100	-0.0210	-0.0580	-0.0584	-0.0728	0.0416	0.0300
juniorsec_~d	0.1356	0.0241	0.0016	-0.0749	-0.0070	-0.2631	-0.1383	-0.1654	-0.0791	-0.0245	-0.0272	0.0618	0.0400
seniorsec_~d	-0.1257	0.0022	0.0162	0.1102	-0.0267	0.0883	0.0417	0.0462	0.0306	-0.0084	0.0415	-0.0426	-0.0240
tertiaryse~d	-0.0247	-0.0177	0.0328	0.1582	0.0678	0.2390	0.1223	0.1616	0.1218	0.1146	0.0643	-0.0573	-0.0481
primary_fth	0.0017	0.2613	-0.0060	-0.2176	0.0039	-0.0203	-0.1556	-0.0195	-0.0886	-0.1084	-0.0746	0.3408	0.0461
juniorse~fth	0.0131	0.1203	0.0145	0.0612	-0.0181	-0.0519	-0.1479	-0.0662	0.0319	0.0071	0.0277	0.1343	-0.0126
seniorse~fth	0.0296	0.1733	0.0813	0.2008	0.0048	-0.1013	-0.2211	-0.1132	0.0933	0.0775	0.0856	0.1233	-0.0485
tertiary~fth	-0.0006	0.0954	0.0639	0.0948	0.0023	-0.0354	-0.0734	-0.0140	0.1275	0.0297	0.0794	0.0505	-0.0572
primary_mth	-0.0169	0.0189	-0.0292	-0.1741	-0.0023	0.0259	0.0372	-0.0837	-0.0543	-0.0844	-0.0639	0.0411	0.2052
juniorse~mth	0.0295	0.0466	0.0359	0.0869	-0.0230	-0.0471	-0.0886	-0.1165	0.0020	0.0176	0.0408	0.0094	0.0324
seniorse~mth	0.0059	0.0083	0.0490	0.2003	0.0164	-0.1052	-0.0938	-0.1305	0.0395	0.0988	0.0927	-0.0498	-0.0124
tertiary~mth	0.0082	0.0017	0.0388	0.1126	0.0084	-0.0270	-0.0200	0.0114	0.0533	0.0870	0.0441	-0.0196	-0.0013

	java_fth	java_mth	unpa~fth	self~fth	govw~fth	agri_fth	casu~fth	unpa~mth	self~mth	govw~mth	agri_mth	casu~mth	primar~d
java_fth	1.0000												
java_mth	0.6978	1.0000											
unpaidfa~fth	-0.0305	-0.0370	1.0000										
selfempl~fth	-0.0026	-0.0217	-0.0076	1.0000									
govwork_fth	0.0023	-0.0222	-0.0069	-0.0114	1.0000								
agri_fth	0.0265	0.0197	-0.0041	-0.0067	-0.0060	1.0000							
casual_fth	0.0128	-0.0028	-0.0046	-0.0075	-0.0068	-0.0040	1.0000						
unpaidfa~mth	-0.0051	-0.0170	0.0426	0.0351	0.0405	-0.0050	0.0434	1.0000					
selfempl~mth	-0.0137	0.0076	0.0122	0.0831	0.0155	-0.0062	0.0518	-0.0088	1.0000				
govwork_mth	-0.0007	0.0242	-0.0042	0.0330	0.1036	-0.0037	-0.0041	-0.0052	-0.0065	1.0000			
agri_mth	-0.0010	0.0055	-0.0033	0.0458	-0.0049	0.1402	-0.0032	-0.0040	-0.0050	-0.0030	1.0000		
casual_mth	-0.0043	0.0122	-0.0048	-0.0078	0.0317	-0.0042	0.0536	-0.0059	-0.0073	-0.0043	-0.0034	1.0000	
primary_chd	-0.0572	-0.0541	0.0468	0.0443	-0.0331	0.0261	0.0219	0.0339	-0.0009	-0.0172	0.0368	0.0030	1.0000
juniorsec_~d	0.0453	0.0262	0.0079	0.0020	-0.0368	0.0210	0.0005	-0.0010	-0.0028	-0.0163	-0.0006	-0.0033	-0.3045
seniorsec_~d	0.0103	0.0153	-0.0277	-0.0202	0.0085	-0.0317	-0.0013	-0.0136	-0.0077	-0.0066	-0.0196	0.0063	-0.3590
tertiaryse~d	-0.0033	0.0068	-0.0214	-0.0234	0.0732	-0.0172	-0.0209	-0.0192	0.0075	0.0521	-0.0110	-0.0054	-0.1862
primary_fth	0.1764	0.0374	0.0424	0.0289	-0.0499	0.0307	0.0530	0.0353	-0.0136	-0.0461	-0.0047	0.0062	0.1379
juniorse~fth	0.0656	0.0115	-0.0082	0.0233	0.0299	-0.0228	-0.0075	-0.0075	0.0068	-0.0105	-0.0185	0.0255	-0.0713
seniorse~fth	0.0484	-0.0200	-0.0104	-0.0226	0.0491	-0.0094	-0.0096	-0.0257	-0.0071	0.0005	-0.0073	-0.0170	-0.1375
tertiary~fth	-0.0102	-0.0616	-0.0191	-0.0172	0.0653	-0.0079	-0.0188	0.0018	-0.0042	0.0591	-0.0135	-0.0196	-0.0936
primary_mth	0.0443	0.1082	0.0058	-0.0074	-0.0291	0.0164	0.0079	0.0218	0.0018	-0.0550	-0.0044	0.0016	0.0915
juniorse~mth	0.0080	0.0149	0.0057	0.0092	-0.0039	-0.0247	0.0009	0.0024	0.0046	0.0055	-0.0120	0.0149	-0.1079
seniorse~mth	-0.0294	-0.0225	-0.0048	-0.0210	0.0399	-0.0112	-0.0041	-0.0200	-0.0090	0.0379	-0.0115	-0.0007	-0.1228
tertiary~mth	-0.0205	-0.0080	-0.0165	-0.0217	0.0169	-0.0044	-0.0162	-0.0202	-0.0139	0.0913	-0.0116	-0.0170	-0.0909

	junior~d	senior~d	tertia~d	prim~fth	juni~fth	seni~fth	tert~fth	prim~mth	juni~mth	seni~mth	tert~mth
juniorsec_~d	1.0000										
seniorsec_~d	-0.5044	1.0000									
tertiaryse~d	-0.2616	-0.3085	1.0000								
primary_fth	0.0925	-0.0537	-0.1978	1.0000							
juniorse~fth	0.0055	0.0722	-0.0226	-0.3138	1.0000						
seniorse~fth	-0.0463	0.0655	0.1291	-0.3777	-0.1771	1.0000					
tertiary~fth	-0.0623	-0.0258	0.2321	-0.2293	-0.1075	-0.1294	1.0000				
primary_mth	0.0599	0.0034	-0.1840	0.3354	-0.0087	-0.2479	-0.2290	1.0000			
juniorse~mth	-0.0091	0.0697	0.0411	-0.1343	0.1485	0.1221	-0.0099	-0.4289	1.0000		
seniorse~mth	-0.0460	0.0384	0.1492	-0.2780	-0.0204	0.3102	0.1624	-0.4214	-0.1692	1.0000	
tertiary~mth	-0.0544	-0.0415	0.2394	-0.1834	-0.0661	0.0539	0.3966	-0.2501	-0.1004	-0.0986	1.0000

Source: Author, 2024