THE CORRELATION BETWEEN CONDITIONAL CASH TRANSFER AND FINANCIAL INCLUSION: A CASE STUDY OF THE 2016 AND 2022 NATIONAL SOCIOECONOMIC SURVEYS

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Abstract

The distribution of conditional cash transfer plays a crucial role in increasing financial inclusion. When households receive cash transfer, they can expand their use of financial services, such as savings, credit, and other financial services. The mechanism for distributing conditional cash transfer is a concern, given that recipients are low-income individuals who are excluded from the formal financial system. The purpose of this thesis is to examine the relationship between conditional cash transfer from the Program Keluarga Harapan (PKH), distributed non-cash through the Family Welfare Card, and financial inclusion, measured by three levels of banking system utilization: no financial inclusion, low financial inclusion, and high financial inclusion, based on savings account ownership and access to credit. The study considers individual economic characteristics, individual characteristics, and regional characteristics. This study analyzes cross-sectional data from The Statistics Indonesia in 2016 and 2022 using marginal effects from probit regression. The results show that households receiving PKH cash transfer through the Family Welfare Card tend to have access to financial inclusion, both in the form of savings account ownership and access to credit. This indicates that the cashless distribution of PKH through the Prosperous Family Card has positive implications and acts as an effective catalyst in increasing the financial inclusion of household heads. The driving factor, namely, poor and educated households, indicates a higher probability of accessing financial inclusion.

Keywords: *Conditional Cash Transfer; Financial Inclusion; Probit; Marginal Effect.*

INTRODUCTION

The distribution of social assistance plays a crucial role in enhancing financial inclusion. Financial inclusion is a process that ensures ease of access, availability, and use of formal financial systems for all members of the economy. It is a multidimensional concept encompassing banking penetration, availability of banking services, and the use of banking systems (Sarma, 2012). When individuals and/or households receive cash-based social assistance, such humanitarian transfers can lead to financial account ownership, which subsequently results in account usage by recipients and access to a wider range of financial services, including savings, insurance, and credit (Chehade, McConaghy, & Meier, 2020). By expanding access to financial services, individuals are better able to mobilize resources to meet daily transactional needs for consumption, investment, and economic growth, thereby contributing to poverty reduction (King & Levine, 1993; Rajan & Zingales, 1998). Nevertheless, the mechanism of conditional cash transfer distribution warrants careful attention, as beneficiaries typically belong to poor groups that are often excluded from formal financial systems (Demirgüç-Kunt & Klapper, 2012).
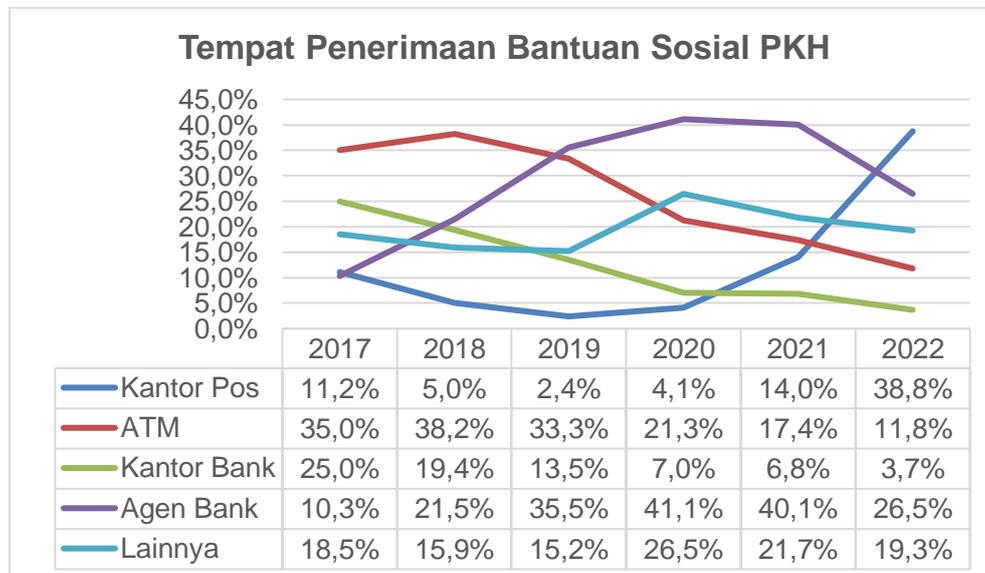
According to Global Findex 2021 data, 1.4 billion people worldwide still do not have a bank account, with Indonesia accounting for 100 million people or about 7% of the world's unbanked adult population. Since 2017, Indonesia has consistently ranked among the top four countries globally with the largest number of unbanked people, totaling 95 million out of 1.7 billion. The majority of these unbanked individuals are the poor, less educated, and women. Exclusion from financial services can lead to various problems, as individuals are often forced to rely on costly informal financial sources. This has a significant negative impact on low-income groups (Inoue, 2018). The Government of Indonesia has identified low-income communities as a key target group for financial inclusion initiatives, in line with Presidential Decree No. 114 of 2020 concerning the National Financial Inclusion Strategy (SNKI). The decree essentially states that low-income groups are those with limited or no access to financial services,

including recipients of social assistance and community empowerment programs. One form of social assistance provided by the government (through the Ministry of Social Affairs) is cash transfers via the Family Hope Program (Program Keluarga Harapan PKH). PKH beneficiaries are poor and vulnerable families and/or individuals listed in the integrated database of poverty alleviation programs, taking into account health, education, and social welfare components. In general, cash-based social assistance aims to meet basic living needs, support social empowerment through human capital investment, and alleviate individual and/or group poverty. Social assistance is also expected to shift behavioral patterns among recipients in how they use cash to improve their welfare. Additionally, PKH cash assistance aims to introduce beneficiaries to the benefits of formal financial products and services.

To support the goal of promoting formal financial services, since 2017 the government has distributed PKH social assistance non-cash through disbursement banks into accounts under the names of PKH beneficiary families (KPM), using the Prosperous Family Card (Kartu Keluarga Sejahtera). This shift from cash to non-cash distribution was mandated by the President to strengthen financial inclusion among poor and vulnerable households and to expand the benefits of social assistance. Previously, PKH cash assistance was distributed in cash, mostly in partnership with PT Pos Indonesia. Based on data from Statistics Indonesia (BPS) obtained through the National Socioeconomic Survey (Susenas) from 2018 to 2023, PKH social assistance was distributed through post offices, automated teller machines (ATMs), bank branches, banking agents, and other channels. The percentage of distribution across these channels is illustrated in Figure 1. In 2017, most non-cash social assistance was distributed through ATMs and bank branches. However, a significant decline was observed between 2018 and 2022. By 2022, the largest distribution channel was post offices, accounting for 38.8% of the total.

Tempat Penerimaan Bantuan Sosial PKH

	2017	2018	2019	2020	2021	2022
Kantor Pos	11,2%	5,0%	2,4%	4,1%	14,0%	38,8%
ATM	35,0%	38,2%	33,3%	21,3%	17,4%	11,8%
Kantor Bank	25,0%	19,4%	13,5%	7,0%	6,8%	3,7%
Agen Bank	10,3%	21,5%	35,5%	41,1%	40,1%	26,5%
Lainnya	18,5%	15,9%	15,2%	26,5%	21,7%	19,3%

Figure 1. PKH Social Assistance Disbursement Locations
Source: National Socioeconomic Survey – Key Household Member Information, 2016–2022 (processed)

Currently, studies examining the impact of cash-based social assistance on financial inclusion remain limited and show conflicting results. For example, Seira (2010) and Chiapa and Prina (2014) conducted studies on transaction flows from the electronic payment system of Mexico's government cash transfer program. Their findings indicate that a small portion of poor households with bank accounts did not withdraw the entire amount of government assistance but saved part of it in their accounts. This suggests that low-income households tend to save when appropriate financial instruments are made available to them. Furthermore, Masino and Nino-Zarazua (2018) examined the impact of the electronic payment system of Mexico's social assistance program and found medium-term effects on savings decisions, transaction costs, and coping strategies. Evidence indicates that, following the intervention, a substitution effect emerged in household savings portfolios, with poor households preferring formal bank accounts over informal saving methods. The study also found that social assistance savings accounts led to increased remittance receipts, which in turn had important implications for household consumption smoothing and risk management decisions.Niankara (2020) showed that public welfare transfers and employment-based salary transfers, along with socioeconomic factors such as age and income, significantly promote financial inclusion by increasing individuals' marginal propensity to save and borrow both from formal and informal financial services

within the Economic Community of West African States (ECOWAS). However, Bastagli et al. (2018) reviewed ten studies on the overall impact of cash transfers on household savings in various low- and middle-income countries and found that only half reported a statistically significant increase in the number of households with savings (ranging from 7 to 24 percentage points) or in the total amount of savings (Angelucci et al., 2012; Daidone et al., 2014b; Haushofer & Shapiro, 2013; Merttens et al., 2013; Merttens et al., 2015). The lack of impact in the other five studies was attributed to program design (e.g., low transfer amounts) and implementation factors (e.g., beneficiaries of Kazakhstan's BOTA social assistance program were required to withdraw the full transfer amount immediately after receipt) (Cheema et al., 2014; Daidone et al., 2014a; Evans et al., 2014; Handa et al., 2014; Pellerano et al., 2014). Similarly, the effects of cash transfers on borrowing are mixed. Since additional cash may be used to either improve access to credit or repay existing debts, results vary across studies. Out of fifteen studies, seven found no significant impact of cash transfers on credit access (Asfaw et al., 2014; Cheema et al., 2014; Daidone et al., 2014a; Evans et al., 2014; Handa et al., 2014; Karlan et al., 2014; Pellerano et al., 2014). In Argentina, Cruces (2023) examined the impact of conditional cash transfers distributed via debit cards on financial inclusion. The results showed that debit card usage did not significantly increase beneficiaries' likelihood of accessing credit through the formal financial system.

In Indonesia, studies on the relationship between social assistance distribution and financial inclusion particularly regarding the use of banking systems remain limited. One relevant study was conducted by Ngasuko (2016), who examined financial inclusion improvement through conditional cash transfer. This study focused on social assistance as one element of public financial facilities that began to be distributed through banking and digital financial services. It analyzed how distributing social assistance through digital financial services could foster inclusive economic growth and reduce poverty. To ensure financial inclusion, several conditions must be met, including the availability of banking agents, supporting infrastructure, and adequate customer service. Using a qualitative approach, the study recommended that future financial inclusion efforts should not be limited to the Prosperous Family Savings Program and the Family Hope Program (PKH). Non cash distribution of PKH social assistance can enhance access to financial services for low-income communities while simultaneously addressing existing socioeconomic problems. To date, research on the impact of cash-based social assistance on financial inclusion remains scarce and yields contradictory findings. As is well known, the financial inclusion index comprises three fundamental dimensions: banking penetration, availability of banking services, and use of banking systems. By focusing on the indicator of banking system usage, it becomes particularly interesting to examine more deeply the impact of PKH social assistance on financial inclusion (savings account ownership and access to credit) while also taking into account other influencing variables.

LITERATURE REVIEW

Individuals and/or households receiving social assistance are vulnerable groups whose social risks are mitigated by the government through income enhancement via cash transfers. When individuals and/or households receive cash-based social assistance, such humanitarian transfers can lead to financial account ownership, which in turn results in account usage by recipients and greater access to a broader range of financial services, including savings, insurance, and credit (Chehade, McConaghy, & Meier, 2020). Empirical evidence shows that cash-based humanitarian assistance can support resilience and create pathways to financial inclusion. In general, Chehade, McConaghy, and Meier explain that cash transfer programs may serve as the incentive financial service providers need to expand their services and infrastructure to reach large populations lacking access to formal financial systems. Beneficiaries use their transaction accounts not only to access cash transfers but also for other payment needs, thereby opening the door to financial services beyond payments. Savings, insurance, and credit can ultimately play a role in meeting financial needs in the face of crises while contributing to economic growth. As a result, beneficiaries become more resilient to economic and financial shocks and more productive within the local economy through access to financial services.

Supporting this positive view on the impact of conditional cash transfer distribution on financial inclusion, Demirguc-Kunt et al. (2017) state that financial inclusion, at its most basic level, begins with owning a bank account. However, it does not stop there only through regular use can individuals fully benefit from account ownership. Digitalizing payments can play an important role in achieving this outcome. Shifting government transfer payments (including all types of social benefits such as subsidies, unemployment benefits, or education and health payments) from cash to accounts can increase the number of adults who have bank accounts. Furthermore, the transition to digital payments can serve as an important first entry point into the formal financial system, leading to significant increases in savings and substitution of informal savings with formal savings.

Additionally, Seira (2010) argues that distributing conditional cash transfer programs through bank accounts has significant potential to increase the use of savings accounts and account balances for several reasons. First, social assistance programs open accounts for beneficiaries rather than relying on individuals to open accounts themselves. Second, the cost of using savings accounts decreases when bank branches are located nearby. Third, the cost of using savings accounts also decreases with lower transaction costs and the interest earned. Fourth, beneficiaries' knowledge of and trust in financial institutions improves through training provided as part of the program. Fifth, by using financial institutions to disburse cash transfers, the program transfers its institutional trust to the beneficiaries and provides them with a formal channel to lodge complaints. This is expected to enhance trust and confidence in financial institutions. Bastagli (2016) also argues that when individuals or households receive conditional cash transfer, it serves as an additional resource that can be used to:

- Spend: on food, household goods, or access to services (such as education, transportation, health care, etc.). Conditional cash transfer may also be spent on less "desirable" items such as alcohol and tobacco.
- Save: if liquidity constraints are relaxed or no longer binding, recipients of conditional cash transfer may increase their formal savings (e.g., in banks) and/or participation in formal and informal savings groups. With improved creditworthiness and predictable payments that can be used as collateral, recipients may also enhance their access to credit or use the funds to pay off existing debts.
- Invest: reduced credit and liquidity constraints, along with increased income certainty, can enable beneficiary households to invest in assets or services. Disinvestment and asset sales in times of crisis can also be reduced as a consequence of receiving conditional cash transfer.
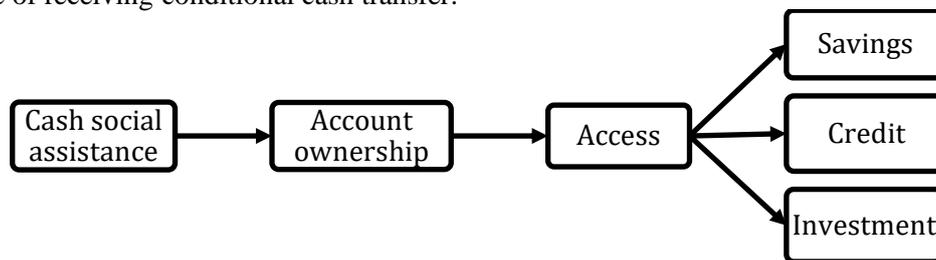
Figure 2. Conceptual Framework

As is well known, the goal of financial inclusion is to facilitate "access for everyone to a range of financial services including savings, credit, insurance, and payments provided responsibly and sustainably by various service providers within a well-regulated environment" (Porter, 2015). The idea is that when households receive social assistance through non-cash mechanisms, it leads to account ownership, which in turn gives beneficiaries access to a broader range of financial services such as savings, credit, and investment. According to consumer choice theory (Pindyck & Rubinfield, 2018), the optimization of choices must meet two conditions: (1) the choice must lie on the budget line, and (2) it must represent the most preferred combination for the consumer. Figure 3 illustrates consumers' relative consumption valuation between the first and second periods. If we assume the presence of social assistance transfers, Figure 3(b) represents a balanced condition in which no social assistance is provided, and households neither save nor borrow. Meanwhile, Figure 3(c) shows that when households receive social assistance and are not conservative types, they tend to increase consumption expenditures through borrowing. Conversely, in Figure 3(a), when households receive social assistance and are conservative types, they experience a surplus of funds and tend to reduce consumption expenditures, allowing them to save. In this case, the indifference curve shifts to the left.
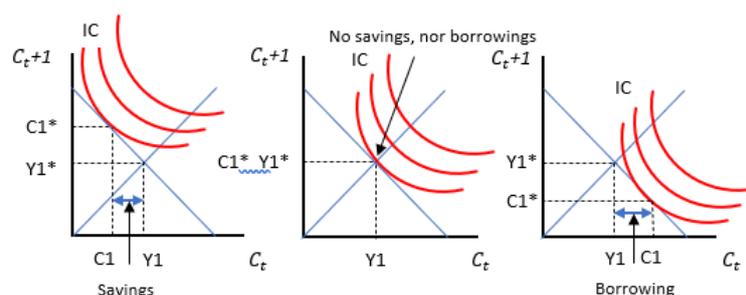
Figure 3. Indifference Curve for Social Assistance Distribution

METHOD

The study employs cross-sectional data provided by Statistics Indonesia (Badan Pusat Statistik – BPS). The data sources are the National Socioeconomic Survey (SUSENAS) for the years 2016—representing the period when the Family Hope Program (Program Keluarga Harapan, PKH) social assistance was distributed in cash—and 2022, which serves as a comparison period when PKH social assistance was distributed non-cash through the Prosperous Family Card (Kartu Keluarga Sejahtera). In this study, the unit of analysis is the household head. In the PKH social assistance distribution, households are identified as beneficiaries by considering the health, education, and/or social welfare components of their family members. For the financial inclusion variable, the measurement focuses on indicators of banking system usage, specifically savings account ownership and access to credit, following one of the dimensions of the financial inclusion index proposed by Sarma (2012). Considering data availability, the financial inclusion index was adjusted and classified into three levels of financial inclusion as follows:

a.   No financial inclusion, proxied by the absence of both savings account ownership and credit access ($NoFI_i$);
b.   Low financial inclusion, proxied by ownership of a savings account but no access to credit ($LowFI_i$); and
c.   High financial inclusion, proxied by ownership of a savings account and access to credit ($HighFI_i$).

The analysis uses the marginal effects of a probit regression model to examine the impact of receiving PKH social assistance through non-cash mechanisms (via the Prosperous Family Card) on financial inclusion. The research model is specified as follows:

The analysis employs the marginal effects method of a probit regression to examine the impact of receiving PKH social assistance through non-cash mechanisms via the Prosperous Family Card on financial inclusion. The research model is specified as follows:

Research Model I (Dependent Variable: No Financial Inclusion)
$$ynoFI_i = \alpha_0 + \alpha_1 PKH_i + \alpha_2 KE_i + \alpha_3 KI_i + \alpha_4 KW_i + \varepsilon \qquad (1)$$
Research Model II (Dependent Variable: Low Financial Inclusion)
$$ylowFI_i = \beta_0 + \beta_1 PKH_i + \beta_2 KE_i + \beta_3 KI_i + \beta_4 KW_i + \varepsilon \qquad (2)$$
Research Model III (Dependent Variable: High Financial Inclusion)
$$yhighFI_i = \delta_0 + \delta_1 PKH_i + \delta_2 KE_i + \delta_3 KI_i + \delta_4 KW_i + \varepsilon \qquad (3)$$

$ynoFI_i$ is the no financial inclusion variable in dummy form, which is assigned a value of 1 if the household has no financial inclusion, and 0 otherwise. $ynoFI_i$ is the low financial inclusion variable in dummy form, which is assigned a value of 1 if the household has low financial inclusion, and 0 otherwise. iyhighFIi is the high financial inclusion variable in dummy form, which is assigned a value of 1 if the household has high financial inclusion, and 0 otherwise.

PKH_i is the PKH Social Assistance variable, proxied by whether the household is a PKH beneficiary. PKH_i is a dummy variable, assigned a value of 1 if the household receives PKH social assistance, and 0 otherwise. KE_i represents the control variable for economic characteristics, referring to poor households, proxied by per capita income that is less than or equal to the poverty line. The poverty line is taken from BPS data in March for each observation year. The poverty line used for 2016 is IDR 343,647 and for 2022 is IDR 484,209. KI_i represents the control variable for individual characteristics, which includes gender, proxied by the gender of the household head in the demographic information as a dummy variable (value of 1 if male and 0 otherwise); age, proxied by the age of the household head in the demographic information, with age squared to examine non-linear effects on the dependent variable; education, proxied by the education level of the household head in the national identification number information (classified into primary, secondary, and tertiary education levels); employment status, expressed as a dummy variable based on the employment information of the household head (value of 1 if employed and 0 otherwise); household size, proxied by the number of family members living in the census building/house; and home ownership, proxied by the ownership status of the dwelling of the household head in the housing information block (value of 1 if the household owns the house and 0 otherwise). KW_i represents the control variable for regional characteristics of the individual's residence, classified into urban and rural areas, expressed as a dummy variable with a value of 1 if the household resides in an urban area and 0 otherwise.

RESULTS AND DISCUSSION

The descriptive statistical analysis of the independent and control variables with respect to the dependent variable during the observation period is presented in Table 1, comparing the data from 2016 with that from 2022.

Table 1. Statistical Description Table

Variable	Year 2016				Year 2022			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
No Financial Inclusion	0,738	0,440	0	1	0,580	0,494	0	1
Low Financial Inclusion	0,134	0,340	0	1	0,259	0,438	0	1
High Financial Inclusion	0,056	0,230	0	1	0,077	0,266	0	1
PKH	0,148	0,355	0	1	0,123	0,329	0	1
Poor RT	281286,4	44170,2	88970	343639	405464,3	56939,5	123824	484201
Man	0,839	0,367	0	1	0,878	0,327	0	1
Age	49,655	14,327	12	97	49,144	13,720	14	97
Education								
basic education	0,748	0,434	0	1	0,707	0,455	0	1
Secondary Education	0,108	0,309	0	1	0,163	0,369	0	1
higher education	0,009	0,097	0	1	0,038	0,190	0	1
Work	0,857	0,350	0	1	0,885	0,319	0	1
Number of RT Members	4,774	1,975	1	20	4,857	1,856	1	25
Home Ownership	0,879	0,326	0	1	0,892	0,310	0	1
Urban	0,248	0,432	0	1	0,238	0,426	0	1

Source: National Socioeconomic Survey Key Household Member Information and National Socioeconomic Survey Information on Household Consumption/Expenditure on Food and NonFood Items and Household Income/Receipts for 2016 and 2022 (processed).

Based on the table above, for the no financial inclusion variable, it can be seen that the proportion of household heads without access to financial inclusion meaning they neither have a savings account nor access to credit was 73.8 percent of the total respondents in 2016, compared to 58 percent in 2022. The higher figure in 2016 corresponds to the period when PKH social assistance was distributed in cash. Meanwhile, for the low financial inclusion variable, the proportion of household heads who had a savings account but no access to credit was 13.4 percent in 2016, increasing to 25.9 percent in 2022 when PKH social assistance was distributed non-cash through the Prosperous Family Card (Kartu Keluarga Sejahtera). For the high financial inclusion variable, the proportion of household heads with access to financial inclusion in 2016 was 5.6 percent, which is lower compared to 7.7 percent in the 2022 survey. To examine the effect of the independent and control variables on the dependent variable, estimations were carried out using probit regression for the three equations in the research model for 2016 and 2022, following the approach used by Niankara (2020). The probit regression method was chosen because the dependent variable is binary, making it appropriate for this type of analysis. More specifically, the use of probit regression for binary dependent variables is based on the random utility theory model, which is used to analyze the preferences of the analytical unit. The binary response model is inherently derived from the random utility theory framework, where the choice of the analytical unit is modeled as utility maximization. In addition, the use of probit regression is based on the assumption that the joint probability density function of the error differences follows a bivariate normal distribution. Following the probit regression, marginal effects were calculated to measure the change in probability when the independent variables change. An odds ratio coefficient analysis was also conducted to measure how many times the odds of an event occurring in one group is compared to another group, providing a strong interpretation of the strength of association. The estimated odds ratio coefficients and marginal effects from each research model used are presented in the following table.

Table 2. Estimated Odds Ratio Coefficients

Variable	Year 2016			Year 2022		
	(I)	(II)	(III)	(I)	(II)	(III)
	No Financial Inclusion	Low Financial Inclusion	High Financial Inclusion	No Financial Inclusion	Low Financial Inclusion	High Financial Inclusion
	dy/dx	dy/dx	dy/dx	dy/dx	dy/dx	dy/dx
PKH	0.952	0.896***	1.049	0.689***	1.337***	1.139**
	(-1.89)	(-3.45)	(1.27)	(-12.95)	(9.78)	(3.24)
Control for Individual Economic Characteristics						
Income	1.000***	1.000***	1.000***	1.000***	1.000***	1.000**
	(-11.01)	(8.28)	(5.41)	(-6.01)	(4.03)	(2.59)
Individual Characteristics						
Genre	0.999	0.903**	1.047	1.426***	0.633***	0.920
	(-0.04)	(-3.25)	(1.03)	(11.80)	(-14.83)	(-1.80)
Age	0.980***	1.013**	1.015*	1.003	0.990*	1.021**
	(-4.69)	(2.67)	(2.01)	(0.63)	(-2.13)	(2.76)
Age Squared	1.000***	1.000	1.000*	1.000	1.000*	1.000***
	(4.28)	(-1.71)	(-1.96)	(0.34)	(2.10)	(-4.05)
Education						
Basic education	0.767***	1.135***	1.369***	0.749***	1.127**	1.459***
	(-8.71)	(3.61)	(5.89)	(-8.27)	(3.21)	(5.63)
Secondary Education	0.567***	1.525***	1.724***	0.575***	1.598***	1.617***
	(-13.99)	(9.11)	(8.39)	(-13.32)	(10.69)	(6.56)
Higher education	0.352***	2.810***	1.819***	0.495***	1.897***	1.831***
	(-11.41)	(11.05)	(4.62)	(-11.90)	(10.55)	(6.68)
Work	1.017	0.977	1.020	0.955	0.999	1.156**
	(0.57)	(-0.69)	(0.42)	(-1.37)	(-0.02)	(2.58)
Number of Household Members	0.913***	1.085***	1.087***	0.964***	1.006	1.033***
	(-18.29)	(14.88)	(12.65)	(-6.67)	(1.08)	(4.17)
Home Ownership	0.913**	1.062	1.132**	0.950	1.035	1.049
	(-3.11)	(1.76)	(2.74)	(-1.64)	(1.03)	(1.06)
Characteristics of Domicile Area						
Urban	0.763***	1.109***	1.239***	0.905***	0.973	1.106**
	(-12.71)	(4.17)	(6.82)	(-4.40)	(-1.11)	(3.09)
Constant	15.10***	0.0693***	0.0328***	2.186***	0.561***	0.0715***
	(21.24)	(-17.88)	(-16.68)	(5.62)	(-3.96)	(-11.58)

statistics in parentheses
*p<0.1, **p<0.05, ***p<0.01

Source: National Socio-Economic Survey Basic Information on Household Members and National Socio-Economic Survey Information on Food and Non-Food Consumption/Expenditure, and Household Income/Receipt for the period 2016 to 2022.

Table 2 presents the estimated odds ratio coefficients. It shows that in Research Model I for 2022, PKH Social Assistance has a negative and significant effect on the level of no financial inclusion, with an odds ratio value of 0.689. Assuming other factors remain constant, each increase in PKH Social Assistance reduces the odds of a person having no access to financial inclusion by 31.1 percent. In Research Model II for 2016, PKH Social Assistance shows a negative and significant effect on the level of low financial inclusion, with an odds ratio value of 0.896. Assuming other factors remain constant, each increase in PKH Social Assistance decreases the odds of a person having a savings account but no access to credit by 10.4 percent.Meanwhile, in 2022, PKH Social Assistance has a positive and significant effect on the level of low financial inclusion, with an odds ratio value of 1.337. Assuming other factors remain constant, each increase in PKH Social Assistance raises the odds of a person having a savings account but no access to credit by 33.7 percent. Lastly, in Research Model III for 2022, PKH Social Assistance has a positive and significant effect on the level of high financial inclusion, with an odds ratio value of 1.139. Assuming other factors remain constant, each increase in PKH Social Assistance raises the odds of a person having full access to financial inclusion by 13.9 percent. Overall, the results indicate that in Research Model I, when households receive additional PKH Social Assistance through the Prosperous Family Card, the odds of household heads having no access to financial inclusion decrease. In Research Model II for 2016, when households receive additional PKH Social Assistance, the odds of having a savings account but no access to credit decrease. Meanwhile, in 2022, when households receive additional PKH Social Assistance through the Prosperous Family Card, the odds of having a savings account but no access to credit increase. Finally, in Research Model III, when households receive additional PKH Social Assistance through the Prosperous Family Card, the odds of having full access to financial inclusion increase.

Tabel 3. Hasil Estimasi Marginal Effect

Variable	Year 2016						Year 2022					
	(I) No Financial Inclusion		(II) Low Financial Inclusion		(III) High Financial Inclusion		(I) No Financial Inclusion		(II) Low Financial Inclusion		(III) High Financial Inclusion	
	dy/dx	Standard Error	dy/dx	Standard Error	dy/dx	Standard Error	dy/dx	Standard Error	dy/dx	Standard Error	dy/dx	Standard Error
PKH	-0,015*	0,008	-0,023***	0,007	0,005	0,004	-0,141***	0,011	0,091***	0,009	0,018***	0,006
Control for Individual Economic Characteristics												
Poor RT	-0,000***	0,000	0,000***	0,000	0,000***	0,000	-0,000***	0,000	0,000***	0,000	0,000**	0,000
Individual Characteristics												
Genre	-0,000	0,009	-0,021***	0,007	0,005	0,005	0,134***	0,011	-0,144***	0,010	-0,012*	0,007
Age	-0,006***	0,001	0,003***	0,001	0,002**	0,001	0,001	0,002	-0,003**	0,002	0,003***	0,001
Age Squared	0,000***	0,000	-0,000*	0,000	-0,000*	0,000	0,000	0,000	0,000**	0,000	-0,000***	0,000
Education												
Basic education	-0,076***	0,008	0,024***	0,006	0,027***	0,004	-0,105***	0,012	0,035***	0,010	0,040***	0,005
Secondary education	-0,179***	0,013	0,094***	0,010	0,057***	0,007	-0,208***	0,015	0,152***	0,014	0,055***	0,007
Higher education	-0,360***	0,034	0,298***	0,034	0,065***	0,020	-0,266***	0,022	0,217***	0,021	0,077***	0,013
Work	0,005	0,009	-0,005	0,007	0,002	0,005	-0,017	0,013	-0,000	0,011	0,020**	0,008
Number of RT Members	-0,028***	0,002	0,017***	0,001	0,009***	0,001	-0,014***	0,002	0,002	0,002	0,005***	0,001
Home Ownership	-0,028***	0,009	0,013*	0,007	0,013***	0,005	-0,019	0,012	0,011	0,011	0,007	0,006
Characteristics of Domicile Area												
Urban	-0,084***	0,007	0,022***	0,005	0,023***	0,003	-0,038***	0,009	-0,009	0,008	0,014***	0,005

statistics in parentheses
*p<0.1, **p<0.05, ***p<0.01
Source: National Socio-Economic Survey Basic Information on Household Members and National Socio-Economic Survey Information on Food and Non-Food Consumption/Expenditure, and Household Income/Receipt in 2016 and 2022 (reprocessed).

Table 3 presents the estimated marginal effects of receiving PKH social assistance on financial inclusion. In Research Model I, it is shown that when households receive PKH social assistance, the probability of these households having no access to financial inclusion—both in terms of savings account ownership and credit access decreases by 1.5 percent in 2016. Meanwhile, in 2022, when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, the probability of these households having no access to financial inclusion decreases by 14.1 percent. In general, the results of Research Model I indicate that when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, it further reduces the probability of these households lacking access to financial inclusion. This indicates that the non-cash distribution mechanism of PKH social assistance can serve as a gateway to financial inclusion for household heads who are excluded from formal financial services.

In Research Model II, it can be seen that when households receive PKH social assistance, the probability of these households having a savings account but no access to credit decreases by 2.3 percent in 2016. Meanwhile, in 2022, when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, the probability of these households having a savings account but no access to credit increases by 9.1 percent. The results of Research Model II show that households receiving PKH social assistance through non-cash mechanisms via the Prosperous Family Card tend to have savings accounts but no access to credit. In Research Model III, it is shown that receiving PKH social assistance does not significantly affect households' access to financial inclusion in 2016. However, in 2022, when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, the probability of these households having access to financial inclusion increases by 1.8 percent. The results of Research Model III can be interpreted to mean that households receiving PKH social assistance through non-cash mechanisms via the Prosperous Family Card tend to have access to financial inclusion, both in terms of savings account ownership and credit access. Based on economic characteristics, poor households have an influence in increasing their ability to access financial inclusion. Based on individual characteristics, several control variables such as gender, age, education, employment status, household size, and home ownership also affect individuals' ability to access financial inclusion. For the gender variable, the results of Research Model I show that male household heads increase the probability of not having access to financial inclusion in 2022. Meanwhile, in Research Model II, it can be seen that female household heads significantly increase the probability of having savings accounts but no access to credit in both 2016 and 2022.

Furthermore, the results of Research Model III also show that female household heads increase the probability of having access to financial inclusion in 2022. For the age variable, as shown in the estimation results table, age significantly becomes a driving factor in individuals' participation in financial inclusion. The probability of having savings accounts and credit access increases with the age of the household head. When the squared age variable is considered, the effect of age on savings account ownership and credit access decreases as age increases. For the education variable, as shown in the estimation results table, education level affects access to financial inclusion. The higher the education level of the household head, the greater the likelihood that the household will have access to financial inclusion. Employment status becomes a determining factor for individuals in accessing financial inclusion. Employment status is often a requirement for individuals to apply for formal credit. The results of Research Model III for 2022 in the estimation table show that the employment status of the household head has a positive and significant effect on increasing access to financial inclusion.

For the household size variable, as shown in the estimation results table, there is an anomaly in 2016 where households with a larger number of members are more likely to have savings accounts. Previous studies have shown that increasing the number of family members results in an absolute and relative reduction in savings, with the savings-to-income ratio declining. Conversely, the results of Research Model III show that households with a larger number of members are more likely to have access to financial inclusion in both 2016 and 2022. Lastly, for the home ownership variable, it is shown that when households own their homes, the likelihood of financial inclusion increases in 2016. Based on regional characteristics, as shown in the estimation results table, residents living in rural areas tend to lack access to financial inclusion. Meanwhile, residents living in urban areas have a positive and significant impact on increasing access to financial services. Urban areas have a positive influence due to development disparities between rural and urban areas and better infrastructure readiness in urban areas to support the expansion of financial inclusion.

CONCLUSION

The results of the study show that in Research Model I, when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, it further reduces the probability of these households having no access to financial inclusion. The results of Research Model II indicate that when households receive PKH social assistance through non-cash mechanisms via the Prosperous Family Card, they tend to have savings accounts but no access to credit. Finally, the results of Research Model III show that households receiving PKH social assistance through non-cash mechanisms via the Prosperous Family Card tend to have access to financial inclusion, both in terms of savings account ownership and credit access. Overall, the findings indicate that households receiving PKH social assistance through non-cash mechanisms via the Prosperous Family Card tend to have access to financial inclusion, both in terms of savings account ownership and credit access. This suggests that the non-cash distribution of PKH social assistance through the Prosperous Family Card has a positive impact and acts as an effective catalyst in increasing financial inclusion among household heads. The non-cash distribution mechanism of PKH social assistance can serve as an entry point to financial inclusion for recipient household heads who are excluded from formal financial services. These findings support the government's objective of introducing the benefits of formal financial products and services through the distribution of PKH social assistance. Several driving factors also influence the probability of households having access to financial inclusion, such as poverty status, gender, age, education, employment status, household size, home ownership, and region of residence. Based on the study results, poor and educated households show a higher probability of accessing financial inclusion.

Recommendations

In line with the research findings, it is evident that the distribution of PKH social assistance has a positive impact on financial inclusion. The government should adopt the distribution of PKH social assistance through the Prosperous Family Card as a standard method to increase the likelihood of households owning savings accounts and gaining access to credit. For frontier, outermost, and disadvantaged regions that are difficult to reach by formal financial services, the role of banking agents or facilitators should be optimized to promote financial services. In addition, comprehensive financial education and literacy programs for PKH beneficiary households need to be strengthened, considering that the majority of recipients are poor households who are excluded from the formal financial system.

Study Limitations

This study has several limitations. First, it cannot infer causal relationships regarding the shift from cash to non-cash distribution of PKH social assistance, since the data used is not panel data. In addition, there is a potential for bias, as the focus of the research is limited to the dimension of banking system usage, namely savings account ownership and credit access, without taking into account the frequency of financial product and service usage. Given these limitations, it is hoped that future research can build upon these findings to enhance the benefits of this study.

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