Impact of the Family Hope Program (PKH) on Household Expenditure in East Java, 2024

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Abstract. Poverty remains a development challenge in Indonesia, particularly in East Java, which contributes substantially to the national poverty rate. Household expenditure, which reflects a household's ability to meet basic needs and maintain living standards, is widely used as a proxy for welfare and poverty. Assessing how social assistance programs influence expenditure is therefore crucial to understand their impact in improving welfare. The Family Hope Program (Program Keluarga Harapan/PKH), a conditional cash transfer initiative, aims to improve household welfare and reduce poverty. This study describes the characteristics of PKH recipients and evaluates the program's impact on household expenditure as an indicator of welfare in East Java. This analysis uses data from the March 2024 Susenas survey on households that meet the PKH criteria, with separate analyses by household poverty levels. The Propensity Score Matching method was used to address selection bias resulting from non-random recipient selection. The results show that PKH recipients generally face limitations in housing, basic access, and socio-economic conditions. Overall, PKH has not increased total expenditures, but there has been an increase in food expenditures among extremely-poor households. Policy adjustments are needed to better align with the needs and characteristics of each group.
Keyword: Family Hope Program (PKH), Household Expenditure, Propensity Score Matching.

1. Introduction

Poverty is a major challenge in development. Poverty has a broad impact on all aspects of life. Poverty limits people's access to basic rights, leading to a decline in quality of life, increased socio-economic burdens, and low human resource productivity [1] [2]. Therefore, the first goal of the Sustainable Development Goals (SDGs) is to end poverty in all its forms everywhere [3].

One of the main objectives of Indonesia's Vision 2045 is to reduce poverty and inequality. The poverty rate is targeted to decrease to between 7.0 and 8.0 percent by 2025 and 0.5 to 0.8 percent by 2045, accompanied by a reduction in the number of people living in poverty. Similarly, in the 2020–2024 National Medium-Term Development Plan (RPJMN), the poverty rate is targeted to be around 6.5–7.0 percent. However, in reality, based on Susenas March 2024, the percentage of Indonesia's poor population is still above 9 percent.

Over the past 13 years, poverty in Indonesia has generally followed a declining trend, with the highest level recorded in 2011 and the lowest in 2019. However, this progress was interrupted in 2020–2021, when the number of poor people rose by approximately two million due to the Covid-19 pandemic that constrained economic activity. Poverty reduction efforts began to show positive results again from 2022 to 2024. Despite these improvements, the poverty rate has not yet returned to its pre-pandemic level.

As an archipelagic country, Indonesia faces unique challenges in its efforts to alleviate poverty. Its geographical condition, consisting of many islands, creates difficulties in interregional access, which in turn exacerbates development disparities and becomes a major obstacle to economic development and poverty alleviation [4]. Meanwhile, Java Island, as a single region inhabited by half of Indonesia's population, demonstrates a developed economy. Supported by adequate infrastructure, the high population density in Java drives economic activity, contributing 57.02% to the national GDP. However, approximately 52.6% of Indonesia's total poor population is still concentrated on Java Island. The high number of poor people on Java Island makes the impact of poverty and efforts to address it in this region significantly contribute to the national level.

East Java Province is an interesting case study because it exhibits characteristics that differ from several other provinces on the island of Java. In aggregate, East Java is the province with the second-highest total GRDP after DKI Jakarta, contributing 14.39% of the national GDP. This achievement highlights East Java's strategic role as one of the drivers of the national economy. In principle, a high GRDP reflects successful development, which is an important prerequisite in efforts to reduce poverty [5]. However, when GRDP is calculated on a per capita basis, East Java's position is below the national average, as shown in Figure 1. Meanwhile, the percentage of poor people in this province is still quite high, even exceeding other provinces on the island of Java that have similar per capita GRDP, such as West Java and Banten. This fact indicates that the significant economic value of East Java has not been fully distributed evenly and has not yet succeeded in significantly reducing poverty.

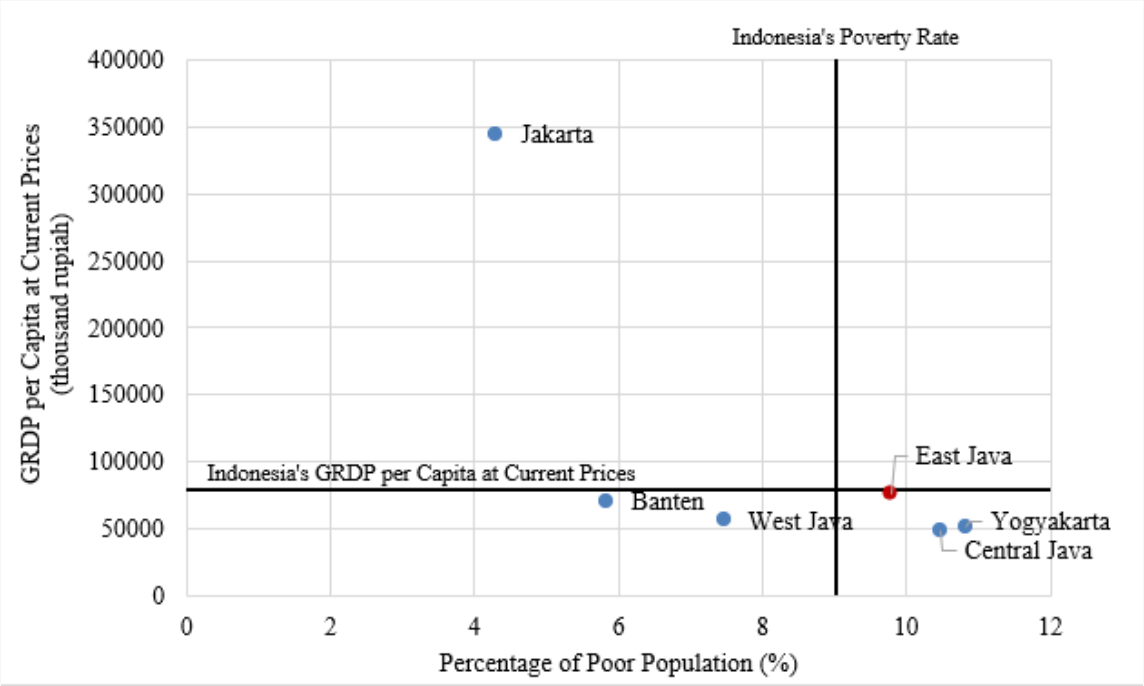

Figure 1. Quadrant Analysis of Poverty Rate and GRDP per Capita of Provinces in Java, 2024. Source: BPS-Statictics Indonesia

In addition, the National Team for the Acceleration of Poverty Reduction (TNP2K) publication identified priority areas for the acceleration of extreme poverty eradication for 2022-2024 [6]. Three provinces on the island of Java have the highest extreme poverty indices, one of which is East Java Province. Twenty-five out of 38 districts/cities in that province are included in the priority areas of the program. East Java Province still faces significant challenges in terms of poverty alleviation.

Poor communities face the risk of income uncertainty and tend to find it difficult to escape poverty by relying solely on their own efforts [7] [8]. Therefore, the government has launched various social

assistance programs that are expected to reduce the burden of basic needs expenditure. Among the poverty alleviation programs that have been launched are the Family Hope Program (PKH), Non-Cash Food Assistance (BPNT)/Basic Food Program, and various forms of assistance from local governments. PKH is one of the social assistance programs designed to help poor and vulnerable families and/or individuals meet their basic needs. Compared to other social assistance schemes, PKH offers greater flexibility, allowing beneficiaries to allocate funds according to household priorities such as food, education, and health. Despite its long implementation since 2007 and continuous expansion, questions remain about how effectively PKH's budget allocation translates into improved household welfare.

Poverty alleviation programs should be a priority and evaluated regularly, given that poverty is a fundamental problem. Efforts to alleviate poverty are not sufficient merely by increasing the budget for supporting programs. Such efforts must be accompanied by effective implementation to ensure that public spending translates into measurable welfare improvements [9]. Accordingly, assessing the impact of social assistance initiatives such as the Family Hope Program (Program Keluarga Harapan/PKH) is essential. Examining how PKH affects household expenditure provides evidence of its contribution to enhancing welfare and reducing poverty, thereby informing more effective and better-targeted poverty reduction policies. Several studies, including those by Nuryadin et al. [10], Capulong & Cuevas [11], and Fatmawati, Multifiah, & Badriyah [12], have examined the impact of Conditional Cash Transfers on household expenditures and their components using the Propensity Score Matching method. Their findings generally show a positive effect on household consumption, although the magnitude and composition of the impact differ across household characteristics. However, most existing studies have limited attention to regional contexts and variations across household characteristics. In Indonesia, PKH serves as the main form of CCT. Considering this, the objective of this study is to describe the characteristics of households receiving the PKH and to analyze the impact of PKH distribution on household expenditures in East Java Province.

2. Research Method

2.1. Family Hope Program (PKH) and Household Expenditure

Poverty is defined as a condition in which a segment of the population lacks sufficient resources to meet minimum basic needs [13]. One of the commonly used indicators of household welfare is expenditure patterns. In Indonesia, BPS adopts the basic needs approach to measure poverty, operationalized through the poverty line. The poverty line represents the minimum monthly monetary value required for an individual to fulfill basic living needs, consisting of both food and non-food expenditures necessary for a decent standard of living. Based on this measure, BPS [14] classifies households into five categories of poverty status: extremely poor, poor, near-poor, vulnerable-poor, and non-poor.

The Keynesian economic perspective emphasizes the crucial role of government intervention in managing the economy. The state is viewed as an active agent in distributing resources, opportunities, and economic outcomes [15]. Within this framework, poverty alleviation is not left solely to market mechanisms but requires deliberate government action through redistributive policies. Social assistance programs represent one of the key instruments in this regard. By providing publicly funded goods and services financed through taxation, such programs can effectively reduce poverty and improve household welfare [13].

Program Keluarga Harapan (PKH, or Family Hope Program) is one of Indonesia's conditional cash transfer (CCT) programs, launched in 2007, targeting poor and vulnerable households registered as Keluarga Penerima Manfaat (KPM, or beneficiary households) [16]. The program is designed to enhance human capital development by empowering recipient households. The eligibility criteria cover three main components: (i) health, which includes pregnant and postpartum women, nursing mothers, and children aged 0–6 years; (ii) education, which targets children aged 6–21 years who have not completed compulsory schooling; and (iii) social welfare, which includes elderly members aged 60 years and above as well as persons with disabilities.

As a conditional assistance scheme, PKH functions not only as an income supplement but also as a policy instrument intended to guide household consumption behavior. The effectiveness of the program depends on the initial conditions of households in relation to the stipulated requirements, as well as on how changes in budget constraints influence optimal consumption choices according to household preferences [17]. In this regard, conditionality and program facilitation may generate substitution effects that shift expenditures toward goods aligned with program objectives such as education and health while limiting the potential rise in non-essential consumption [18]. As illustrated in Figure 2, household responses to conditional cash transfer programs such as PKH can be classified into three types based on their initial position relative to the program's requirement threshold (X_0). The first group consists of ineligible households, who do not meet the requirements and therefore do not participate in the program. These households remain at their original budget constraint, and their consumption bundle stays unchanged. The second group includes eligible households whose initial consumption of required goods (e.g., education or health services) is below the threshold X_0. To qualify for the transfer, these households must reallocate their expenditure by reducing consumption of other goods to meet the conditionality. This behavioral adjustment causes a distortion in their consumption choices. The extent of the distortion and its impact on welfare depends on two main factors: the value of the transfer and the difference between the initial consumption level and X_0. If the transfer is sufficiently large or the household's initial consumption is already close to X_0, the utility gained from the transfer may outweigh the cost of behavioral adjustment. The third group represents households already consuming at or above the threshold ($X \geq X_0$) prior to the program. These households can comply with the conditions without changing their consumption pattern and thus receive the transfer as a pure income effect, leading directly to higher welfare.

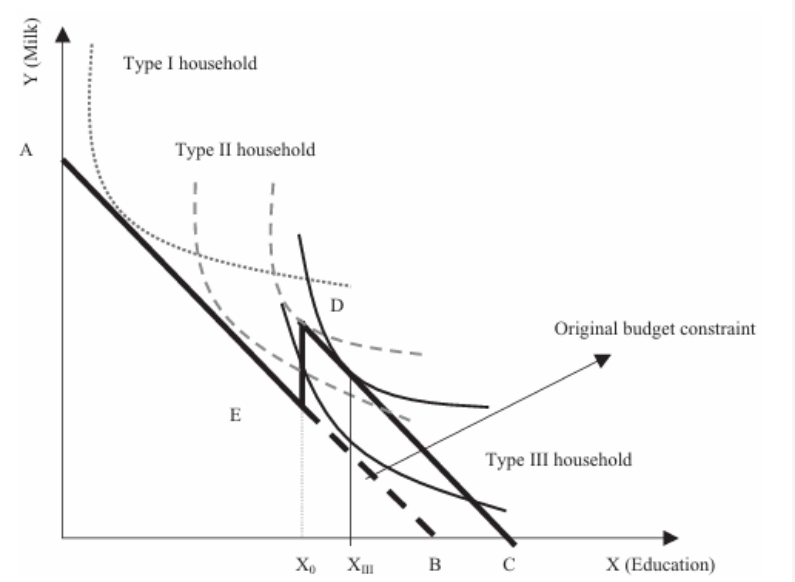

Figure 2. Conditional social assistance for household expenditure.
Source: Das, Do, & Özler, 2005

2.2. Research Scope

This study analyzes the impact of the Family Hope Program (PKH) on household spending in East Java Province. The unit of analysis used is the household, with coverage limited to households that meet the requirements based on PKH recipient criteria, which consist of three components: health, education, and social welfare. The criteria for households analyzed include the presence of at least one household member with the following characteristics: children aged 0–6 years, children aged 6–21 years who have not completed 12 years of basic education, and elderly members aged 60 years and above. Meanwhile,

other beneficiary components such as pregnant women and persons with disabilities could not be identified due to data limitations.

This study uses cross-sectional data because the observation was conducted at a single point in time, March 2024. The variables used in this study consist of treatment variables, outcome variables, and covariates. The treatment variable is the household's status of receiving PKH. The outcome variables include total household expenditure, expenditure on food, and expenditure on non-food items. Furthermore, the covariates in this study consist of household characteristics related to poverty criteria as stipulated in the Minister of Social Affairs Decree of the Republic of Indonesia No. 262/HUK/2022, as well as criteria for adequate housing established by the BPS.

2.3. Data Collection Method

This study is a quantitative research that utilizes secondary data. All data used were obtained from the March 2024 National Socio-Economic Survey (Susenas) conducted by Statistics Indonesia (BPS). To obtain household expenditure data, the study used data from the Susenas Consumption and Expenditure Module, which includes the average monthly household expenditure, expenditure on food, and non-food expenditure. The Susenas Core was used to obtain information on household status regarding PKH receipt and household characteristics. Households identified as PKH recipients in the dataset were classified as the treatment group, representing those who received the conditional cash transfer. Meanwhile, households that did not receive PKH assistance but shared similar observable characteristics were classified as the control group.

2.4. Data Analysis Method

This study presents data in tables and graphs to illustrate the characteristics of households receiving the Family Hope Program (PKH) in East Java Province. It also applies Propensity Score Matching (PSM) to analyze the impact of PKH on household expenditure in East Java Province. In the distribution of social assistance programs such as PKH, not all poor households have the same conditions and capacity to respond to the assistance received. Differences in households' ability to meet basic needs lead to variations in how the assistance is utilized. To gain a deeper understanding of the program's impact, the analysis is conducted separately for household groups based on their poverty level. Household poverty level is categorized into five groups based on per capita expenditure relative to the provincial poverty line (GK): extremely poor (<0.8GK), poor (0.8GK≤GK), near poor (GK≤1.2GK), vulnerable-poor (1.2GK≤1.6GK), and non-poor (≥1.6GK), with GK differentiated by urban and rural areas.

The use of the PSM method is motivated by the fact that assistance is not provided randomly, but is determined by the government based on specific household characteristics. PSM reduces selection bias by using a propensity score approach, thereby making program impact estimates more accurate [19]. This method allows for a more balanced comparison between program recipients and non-recipients based on similar characteristics. The stages of analysis using PSM are as follows.

a. Estimate the Propensity Score

Propensity score estimation was conducted by modeling the probability of a household receiving PKH based on a set of observed covariates. The covariates were selected according to the PKH policy framework, which considers socioeconomic and housing characteristics. These variables were then modeled using a binary logistic regression [20].

$$logit\,(P(z_i=1)) = ln\,ln\left[\frac{P(z_i=1)}{1-P(z_i=1)}\right] = \beta_0 + \beta_1 Vulnmem_i + \beta_2 Area_i + \beta_3 Floorarea_i + \beta_4 Floor_i + \beta_5 Wall_i + \beta_6 Light_i + \beta_7 Sanit_i + \beta_8 Cook_i + \beta_9 Food_i + \beta_{10} Edu_i + \beta_{11} Work_i \quad (1)$$

Notes:

$P(z_i = 1)$: probability that the i-th household becomes a PKH recipient

$\beta_1, \beta_2, \ldots, \beta_{11}$: coefficients of the covariate variables

A detailed description and coding of each covariate variable are presented in Table 1.

The estimated propensity scores ($P(z_i = 1)$) were then used to identify comparable non-recipient households that served as the control group for each PKH-recipient household (treatment group). These scores reflect the likelihood of receiving PKH given similar household characteristics, ensuring that any differences in outcomes between the two groups can be more confidently attributed to the program rather than pre-existing differences.

b. Common Support Assumption Test

The common support assumption requires sufficient overlap in the distribution of propensity scores between the treatment and control groups. This overlap ensures that, for each household receiving PKH, there exists at least one non-recipient household with similar observable characteristics, allowing for valid matching. The control group in this study was derived from households within this overlapping region, based on the estimated propensity scores obtained in the previous stage. Violation of this assumption, indicated by minimal or no overlap, would imply that some treated households lack comparable control units, leading to biased or inconsistent estimates of the program's treatment effect.

c. Selection of Matching Algorithm

In this study, matching was performed using the Nearest Neighbor Matching and Radius Caliper Matching methods. The selection of the matching algorithm was based on the matching results between the control group and the treatment group, ensuring that the characteristics of both groups became nearly identical by applying a specific bandwidth value.

d. Assessment of Matching Quality

A matching process is considered satisfactory when no significant differences remain between the two groups after matching. To evaluate this balance, several statistical tests were employed, including Hotelling's T^2 test, the Student's t-test, and standardized bias [21] [22] [23].

e. Estimate the Impact

After confirming that both groups have achieved satisfactory matching quality based on the checks conducted earlier, the next step is to estimate the impact using the Average Treatment Effect on the Treated (ATT). The ATT represents the average difference in potential outcomes between the treatment group and its counterfactual condition (the condition in which the same group would not have received the treatment).

$$ATT = \frac{1}{N_T}\left[\sum_{i\in T} \quad Y_i^T - \sum_{j\in C} \quad \omega(i,j)\, Y_j^C\right] \tag{2}$$

Notes:

N_T: number of households receiving PKH
Y^T: household expenditure of PKH recipients
Y^C: household expenditure of non-PKH recipients
$\omega(i,j)$: weight assigned in the matching process

f. Sensitivity Analysis

Sensitivity analysis was conducted to assess the robustness of the PSM estimates to potential hidden bias using the Rosenbaum Bounding Approach [21]. The sensitivity parameter, Γ (Gamma), represents how much unobserved factors could affect the odds of program participation between two matched households with identical observed covariates.

$$\frac{1}{\Gamma} \leq \frac{\pi_i/(1-\pi_i)}{\pi_j/(1-\pi_j)} \leq \Gamma \tag{3}$$

If Γ = 1, treatment assignment is random after matching (no hidden bias), while larger Γ values indicate increasing potential bias. The treatment effect is re-evaluated as Γ increases (e.g., 1.1, 1.2, 1.3, ...), and the point where it becomes insignificant marks the sensitivity threshold.

3. Result and Discussion

3.1. Characteristics of PKH Recipient Households

The descriptive statistics of the samples is presented in Table 1. There are 17,1% households that receive PKH assistance or included in treatment group. In addition, the table shows variations in average expenditures across different categories. For food expenditures, the averages are relatively similar between PKH recipient and non-recipient households. However, for non-food expenditures, the difference is much more pronounced, indicating the possibility of an initial disparity between households receiving PKH and those not receiving it.

Table 1. Distribution of PKH Recipients and Non-recipients by Household Characteristics.

Variables	Definition	Mean	
		PKH	Non-PKH
PKH	=1 if household receive PKH, 0 otherwise	0,171	0,829
	Outcome		
Total Expenditure	Household total expenditure in month (IDR)	3.511.841	5.192.902
Food Expenditure	Household food expenditure in month (IDR)	2.113.681	2.600.207
Non-food Expenditure	Household non-food expenditure in month (IDR)	1.398.159	2.592.694
	Covariate		
Vulnerable members	Number of vulnerable household members	1,929	1,782
Area	=1 if the household is located in an urban area	0,145	0,855
	=0 if in a rural area	0,216	0,784
Floor area	=1 if the floor area per capita is at least 7.2 m²	0,175	0,825
	=0 otherwise	0,252	0,748
Floor	=1 if the main floor material is adequate	0,168	0,832
	=0 otherwise	0,337	0,663
Wall	=1 if the main roof material is adequate	0,175	0,825
	=0 otherwise	0,303	0,697
Light	=1 if the main source of lighting is adequate	0,127	0,873
	=0 otherwise	0,217	0,783
Sanitation	=1 if the sanitation facility is adequate	0,163	0,837
	=0 otherwise	0,255	0,745
Cooking fuel	=1 if the main cooking fuel is modern	0,167	0,833
	=0 otherwise	0,270	0,730
Food adequacy	=1 if the household's food needs are adequately met	0,167	0,833
	=0 otherwise	0,281	0,719
Education level	=1 if the household head has at least senior high school education	0,085	0,915
	=0 otherwise	0,225	0,775
Working	=1 if there is any household member who is working	0,175	0,825
	=0 otherwise	0,200	0,800

The data indicate that PKH households are more concentrated in inadequate housing conditions, including smaller floor area per capita, substandard flooring and roofing, limited lighting, and poor sanitation facilities. They are also more likely to rely on traditional cooking fuels and to experience food insufficiency, highlighting their economic vulnerability. In addition, PKH recipients are more common among households with less-educated heads, those without working members, and those with a higher

number of vulnerable members. These patterns suggest that PKH has been appropriately targeted toward households experiencing multiple forms of vulnerability.

The distribution of PKH beneficiaries across household expenditure groups indicates that the proportion of recipients declines as welfare improves: 34% among the extremely poor, 27.5% among the poor, 24.3% among the near-poor, 22.8% among the vulnerable, and 13.1% among the non-poor. This pattern suggests that PKH generally reaches economically vulnerable households. However, the presence of uncovered poor households and inclusion of non-poor recipients points to targeting inefficiencies, underscoring the need for continuous verification and refinement of beneficiary data.

3.2. Impact of PKH on Household Expenditures

Before assessing the impact of PKH on household expenditure, a logit regression was first estimated to model PKH recipient status based on household characteristics. This estimation produced the propensity score for each observation, which was then used to match treatment and control groups with similar observable traits. The results of this estimation are presented in Table 2. Considering the potentially different impacts across households' ability to meet basic needs, the analysis was conducted separately for household groups classified by their poverty level.

Table 2. Summary of Logistic Regression Estimates for PKH Household Participation.

Variables	Coefficient (se)				
	Extremely-Poor	Poor	Near-Poor	Vulnerable-Poor	Non-Poor
Vulnerable members	0,241[a] (0,093)	0,295[a] (0,060)	0,169[a] (0,054)	0,130[a] (0,039)	0,110[a] (0,032)
Area	0,533[a] (0,193)	-0,119 (0,125)	-0,083 (0,100)	-0,100 (0,069)	-0,106[b] (0,051)
Floor area	-1,091[b] (0,486)	-0,852[b] (0,399)	-0,423 (0,302)	-0,599[a] (0,215)	-0,544[a] (0,163)
Floor	0,008 (0,238)	-0,316[c] (0,173)	-0,622[a] (0,150)	-0,431[a] (0,114)	-0,516[a] (0,099)
Wall	-0,066 (0,346)	-0,237 (0,289)	-0,339 (0,268)	0,159 (0,204)	-0,071 (0,221)
Light	-0,308 (0,201)	-0,285[c] (0,134)	-0,045 (0,105)	-0,118[c] (0,071)	-0,391[a] (0,049)
Sanitation	-0,239 (0,186)	-0,054 (0,140)	0,023 (0,120)	-0,156[c] (0,086)	-0,324[a] (0,069)
Cooking fuel	-0,079 (0,191)	-0,172 (0,141)	-0,092 (0,129)	-0,163[c] (0,094)	-0,305[a] (0,080)
Food adequacy	-0,216 (0,200)	-0,158 (0,153)	-0,169 (0,138)	-0,344[a] (0,099)	-0,445[a] (0,082)
Education level	-0,807[a] (0,308)	-0,515[a] (0,175)	-0,353[a] (0,134)	-0,560[a] (0,089)	-1,060[a] (0,060)
Working	0,008 (0,339)	-0,167 (0,210)	-0,298 (0,203)	-0,184 (0,132)	-0,159[a] (0,077)
Constant	0,185 (0,691)	0,341 (0,544)	0,510 (0,468)	0,370 (0,336)	0,745[b] (0,298)
N	672	1656	2353	5238	16906
LR chi^2	35,6[a]	53,48[a]	48,17[a]	121,33[a]	863,53[a]
Pseudo R^2	0,042	0,028	0,018	0,021	0,065

[a] Significant at the 1% level ($p<0.01$)
[b] Significant at the 5% level ($p<0.05$)
[c] Significant at the 10% level ($p<0.10$)

The logistic regression models for all household groups are statistically significant at the 1% level. For extremely-poor households, PKH participation is significantly influenced by the area of residence,

number of vulnerable members, floor area, and education level of the head of household. Among poor households, significant predictors are the number of vulnerable members, floor area, and education level of the head of household, with floor material and lighting source being significant at the 10% level. For near-poor households, the number of vulnerable members, floor material, and the head of household's education level are the main determinants. For vulnerable-poor households, participation is influenced by the number of vulnerable members, floor area, floor material, food sufficiency, and the head of household's education level at the 5% level, while lighting, sanitation, and cooking fuel are significant at the 10% level. In non-poor households, all covariates significantly influence PKH participation except wall materials. In general, the results indicate that household characteristics significantly influence the likelihood of PKH participation, with varying effects across poverty levels.

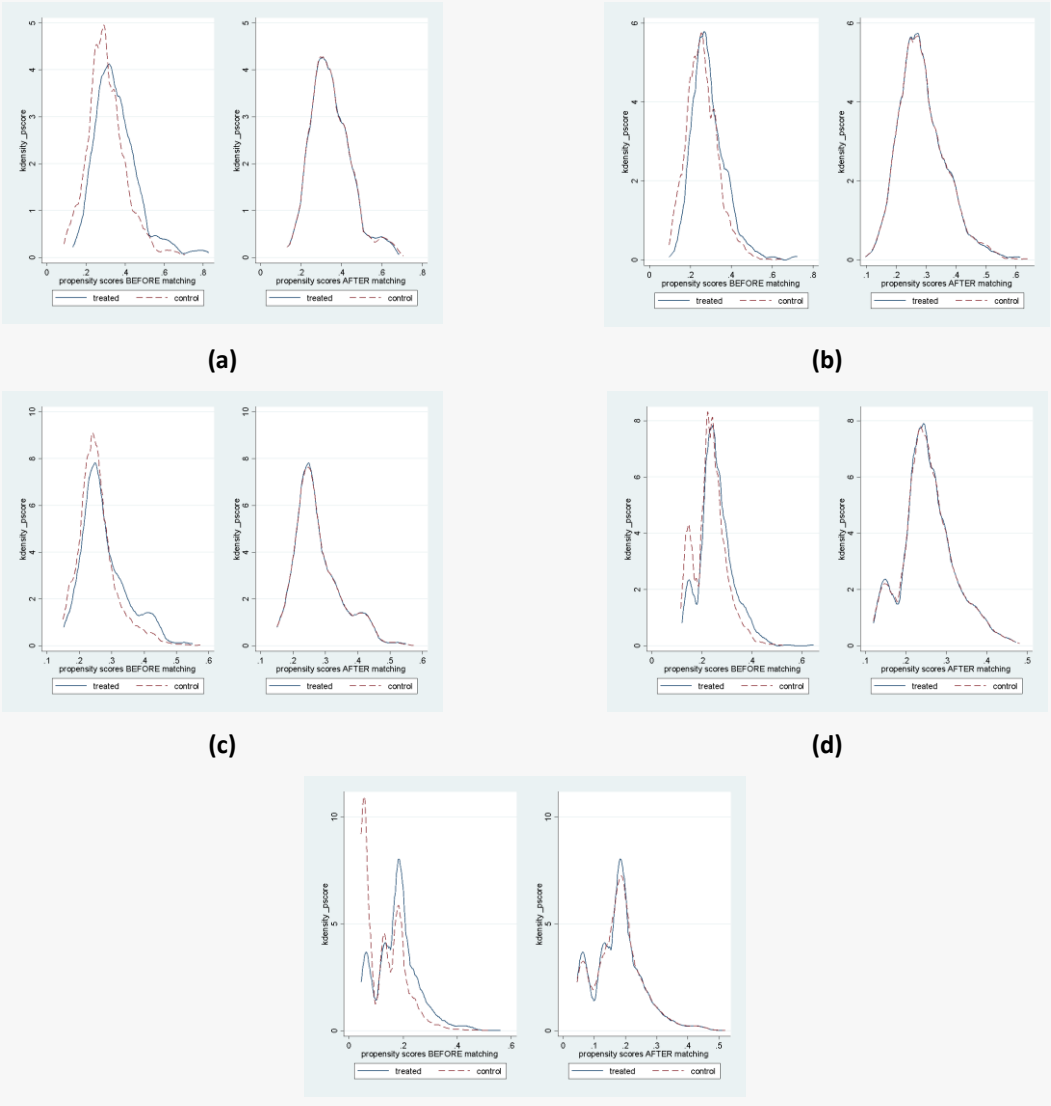

Figure 3. Region of Common Support
(a) Extremely-poor household, (b) Poor household, (c) Near-poor household, (d) Vulnerable-poor household, (e) Non-poor household

The treatment group in this study consists of households receiving PKH, while the control group includes non-recipient households with similar observable characteristics. Comparing these two groups

is essential to isolate the effect of PKH, ensuring that differences in household expenditure can be attributed to the program rather than pre-existing socioeconomic disparities. The common support region between PKH and non-PKH households in each group, as illustrated in Figure 3, confirms that the overlap assumption is satisfied. A combined approach of nearest neighbor (NN) matching and radius matching was employed, as it produced the most balanced results. The balance tests conducted after matching indicate that the treatment and control groups became more comparable across observed characteristics, validating the quality of the matching process. Specifically, the standardized mean bias for all covariates fell below the 10% threshold. An exception was found in the subgroup of extremely-poor households, where the covariate related to sanitation facilities still exhibited a standardized bias of 10.2% after matching. Given the relatively small sample size for this subgroup, this level of bias is considered acceptable as it remains below the 25% threshold suggested in the literature [24]. Furthermore, the t-tests for mean differences across covariates were no longer statistically significant. These results confirm that the matching procedure achieved a satisfactory balance of covariates between the two groups, allowing the observed differences to be attributed to the effect of the program.

Table 3. Summary of ATT Estimates of PKH Impact on Household Expenditure by Poverty Level.

Expenditure Category	ATT (se)				
	Extremely-Poor	Poor	Near-Poor	Vulnerable-Poor	Non-Poor
Total Expenditure	107.330,84[c]	29.026,92	46.253,94	158.175,79	123.155,36
	(63.186,96)	(81.763,04)	(81.193,56)	(100.976,44)	(482.254,08)
Food Expenditure	84.817,45[b]	44.423,62	76.028,83	137.165,89[b]	307.566,68[c]
	(41.969,24)	(53.718,26)	(54.065,84)	(65.057,58)	(143.342,08)
Non-food Expenditure	22.513,40	-15.396,70	-29.774,89	21.009,90	-184.411,32
	(26.678,98)	(35.672,55)	(33.616,57)	(46.008,20)	(425.195,61)

[a] Significant at the 1% level (p<0.01)
[b] Significant at the 5% level (p<0.05)
[c] Significant at the 10% level (p<0.10)

The Average Treatment Effect on the Treated (ATT) represents the estimated causal impact of PKH on household expenditure. It measures the average difference in expenditure between PKH recipient households and what they would have spent had they not participated in the program, as approximated by comparable non-recipient households. Therefore, a positive and statistically significant ATT indicates that PKH increases household expenditure. Table 3 demonstrates that the impacts of PKH vary across poverty levels, consistent with Das, Do, & Özler [17] and Hadna & Askar [25], who emphasize that household responses depend on their economic capacity. For extremely poor households, PKH shows a positive and statistically significant effect on several expenditure components. The ATT for total expenditure is Rp107,330.84, significant at the 10% level, indicating that households receiving PKH spend, on average, about Rp107,000 more per month than comparable non-recipient households. Similarly, the increase in food expenditure by Rp84,817.45, significant at the 5% level, suggests that PKH recipient households spend on average about Rp84,800 more on food per month than comparable non-recipient households. Non-food expenditure also rises but is not statistically significant. These findings indicate that extremely poor households primarily allocate cash transfers to basic consumption needs, especially food, reflecting limited capacity to increase non-food spending. This pattern aligns

with Kamakura & Mazzon [26], who note that cash transfers are often directed toward flexible and short-term consumption. Strengthening PKH assistance for this group is therefore essential to ensure that, beyond meeting basic needs, program objectives in education and health are also achieved.

The program's impact on expenditures is not statistically significant for poor to non-poor households, except for food expenditures. In general, total expenditure shows an upward trend, but the effect is not statistically strong, meaning the program's contribution to overall household spending cannot be confirmed with confidence. The large standard errors indicate high variability in how these households use the transfers; some may allocate them for savings, debt repayment, or occasional needs rather than consistent monthly spending. This uncertainty implies that the impact of PKH on total expenditure is less predictable across this group, reflecting more heterogeneous spending behavior compared to extremely poor households. This finding is consistent with Hincapié [27], who noted that program effects on total income are significant only among households in the lower end of the income distribution.

The program shows a significant impact on food expenditures among vulnerable-poor and non-poor households. This reflects the priority of beneficiary households to meet basic needs, with assistance primarily allocated to food. In contrast, the program has no significant effect on other types of expenditures, partly because PKH recipients are entitled to complementary assistance programs in health, education, energy subsidies, housing, and other basic needs [16]. These complementary programs, such as BPNT, KIP, KIS, housing assistance, electricity subsidies, and KUBE, cover non-food needs directly, thereby reducing or offsetting household non-food spending.

The sensitivity analysis was conducted to test how reliable the estimated impacts are when accounting for factors not captured in the model. The results indicate that the program effects remain statistically significant up to a gamma (Γ) value of 1.3 for extremely poor households and up to $\Gamma = 1.4$ for vulnerable-poor and non-poor households. This means that the estimated impacts would only lose statistical significance if there were unobserved factors that increased the chance of receiving PKH by more than 1.3 to 1.4 times compared to similar households. This means the findings remain reliable even if there are small differences between PKH recipients and non-recipients that were not measured in the data. However, the results should still be interpreted carefully if stronger unobserved factors are suspected.

4. Conclusion

Based on the discussion, PKH recipient households in East Java in 2024 are predominantly located in rural areas and generally characterized by inadequate housing, limited access to basic services, and vulnerable socio-economic conditions. The estimation results show that PKH has not fully led to an improvement in household welfare. Although beneficiary households show higher average expenditures, the impact is only statistically significant for the extremely-poor households. This program is associated with higher food expenditures among vulnerable and non-poor households, but there is no statistically significant impact on poor and near-poor households. These findings indicate the uneven impact of PKH, highlighting the need for policy refinement to address the specific needs of various household groups. It should also be acknowledged that the Propensity Score Matching (PSM) approach used in this study cannot directly capture intergroup heterogeneity. This limitation highlights the importance of further research using more appropriate complementary methods to explain the heterogeneous impact of the program.

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