Ending child labour: does conditional cash transfer matter? Evidence from Indonesia

Resty Tamara Utami
Economics and Finance for Development, University of Bradford, Bradford, UK

Romi Bhakti Hartarto
Department of Economics, Universitas Muhammadiyah Yogyakarta, Bantul, Indonesia and
Ungku Aziz Centre for Development Studies, Universiti Malaya, Kuala Lumpur, Malaysia

Wahyu Tri Wibowo
Department of Economics, National Dong Hwa University, Hualien, Taiwan, and
Muhammad Luqman Iskandar
Department of Economics, Universitas Muhammadiyah Yogyakarta, Bantul, Indonesia

Abstract

Purpose – This study aims to investigate the extent to which the Indonesian conditional cash transfer (CCT), known as the Family Hope Program (FHP), impacts the probability of children engaging in labour activities.

Design/methodology/approach – This study utilizes data from the Indonesian Family Life Survey in 2014, focussing on periods following the implementation of the FHP. To estimate the impact of FHP on child labour in Indonesia, the authors employ a propensity score matching strategy to balance the characteristics observed between the participant and non-participant groups.

Findings – The estimates show that FHP has no statistical impact on child labour across all matching techniques. This implies that receiving the CCT does not always help poor households decrease the probability of stopping their children from participating in labour activities.

Social implications – The conditions applied to the beneficiaries, which only require children to attend school without requiring them to stop working, may not effectively address the issue of child labour. The current structure and design of the FHP need to be re-evaluated and improved to effectively combat child labour.

Originality/value – Despite numerous studies examining the impact of CCT on child labour which remains inconclusive in Indonesia, this study contributes to the existing literature by considering children participating in labour activities across all types of work without focussing on specific education levels or regions.

Peer review – The peer review history for this article is available at: https://publons.com/publon/10.1108/IJSE-07-2023-0580

Keywords Conditional cash transfer, Child labour, Education, Indonesia

Paper type Research paper

Introduction

Child labour remains a persistent and intricate issue affecting various regions worldwide. This crucial matter has garnered attention from global leaders, prompting them to take decisive action as it aligns with the Sustainable Development Goals target of eradicating child labour. Child labour encompasses any form of work or activity that jeopardizes children’s physical and mental well-being, further perpetuating social inequality and discrimination.

The authors would like to thank Dr Rashmi Arora for providing valuable input to this research.
against them [1]. These young participants in the workforce often find themselves ill-equipped to handle the demands of their labour. The consequences of child labour are far-reaching, manifesting as long-term physical health problems, and significantly impacting their psychological, behavioural and mental development (Radfar et al., 2018). The extensive hours and hazardous conditions associated with child labour further exacerbate the negative effects on children’s safety and health. Consequently, the well-being of children is linked to the issue of child labour (Duflo, 2001). Addressing this problem is crucial to ensuring a better future for these vulnerable individuals and fostering a more equitable society.

Extensive evidence indicates that child labour inflicts both short and long-term detrimental impacts on children. In the short term, documented consequences reveal that engaging in laborious work adversely affects their health, leading to malnutrition, infectious diseases, and mental disorders. Over the long term, some children experience a deceleration in cognitive and coping abilities (Posso, 2017; Ibrahim et al., 2019). As a result, these conditions hinder proper growth and impede academic performance, ultimately leading to a decline in human capital (Chakraborty and Chakraborty, 2018).

In recent times, significant efforts have been made to eliminate child labour worldwide. From 2000 to 2020, there has been a gradual decline in the global number of child labours [2]. In 2000, approximately 1 in 10 children aged 5 to 17 were engaged in child labour, accounting for over 245 million children or 16% of the population. By 2016, the number decreased to around 151.6 million or 9.6%. Despite this progress, unfortunately, child labour remains prevalent in the least-developed and developing countries where extreme poverty is widespread. For instance, in Sub-Saharan Africa, approximately 23.9% of children between the ages of 5 and 17 are involved in child labour, making it the continent with the highest child labour rate. Asia and the Pacific follow with 6%, while Latin America and the Caribbean stand at 5.6%. In these regions, economic circumstances often force children to abandon their education and turn to paid labour to contribute to their family’s income (de Hoop and Rosati, 2014; Hamenoo et al., 2018; Tang et al., 2018).

As a lower-middle-income country in Asia, a high incidence of child labour also remains prevalent in Indonesia. In 2021, over 1.05 million children, accounting for approximately 1.82% of those aged 5–17 years, were engaged in child labour [3]. This figure has been fluctuating within the last decade hovering with around 57% of them working in the service sector, 28% in agriculture and the remaining 15% in industry. The root cause of this issue can be attributed to poverty, which is believed to be the primary driving force behind child labour in the country (Sandra et al., 2020). With an overall poverty rate reaching double digits at 10.14%, equivalent to 27.54 million people as of March 2021, the situation demands urgent attention and action.

Over the past two decades, numerous countries, including Indonesia, have implemented targeted social protection programs to combat child labour effectively. Among these initiatives, the cash transfer program has gained widespread popularity in the last decade. By offering financial assistance to low-income households, this program has shown success in reducing child labour incidence in various countries (de Hoop and Rosati, 2014; Del Carpio et al., 2016; Meza-Cordero, 2023). The cash transfer program comes in two distinct forms: unconditional cash transfer (UCT), which imposes no specific conditions on beneficiaries (Handa et al., 2016), and conditional cash transfer (CCT), which requires recipients to meet certain obligations, such as ensuring regular health check-ups and enrolling and attending school (Fiszbein et al., 2009).

The impact of CCT on child labour has been extensively studied, and the research findings vary significantly across different countries, contexts and aspects (Reynolds, 2015; Del Carpio et al., 2016; Parker and Todd, 2017; Wardani et al., 2022; Meza-Cordero, 2023). This cash transfer program can potentially contribute to reducing child labour through two primary mechanisms. First, by providing financial assistance, the program eases the burden
of basic education expenses, such as tuition fees, books and uniforms. This, in turn, helps to make education more accessible to children from low-income families, making it less likely for them to engage in labour to supplement the family income. Second, the conditional nature of the program requires school-aged beneficiaries to enrol in and attend educational institutions regularly. As a result, children spend more time in school, effectively reducing the hours available for them to participate in labour activities.

The Family Hope Program (FHP), as the Indonesian CCT program, was introduced in 2007 with the primary objective of alleviating poverty by enhancing the living conditions of low-income households through improved health and increased school enrolment and achievement. As the third-largest social protection program in Indonesia, the FHP aids approximately 19 million children[4]. Despite numerous studies examining the impact of CCT on child labour (Gee, 2010; de Hoop and Rosati, 2014; Del Carpio et al., 2016; de Hoop et al., 2019; Hidayatina and Garces-Ozanne, 2019; Meza-Cordero, 2023), there is a noticeable gap in research investigating the effectiveness of this program in reducing child labour in Indonesia which remains inconclusive.

Recent evidence indicates that the FHP has led to a decrease in children’s involvement in household chores and economic activities (Hidayatina and Garces-Ozanne, 2019). However, it is essential to note that their study focussed solely on Java, the region with the highest number of FHP beneficiaries, rather than considering the entire country. On the other hand, Wardani et al. (2022) found that while the FHP increased the likelihood of secondary school enrolment for all beneficiaries, it did not affect the probability of children engaging in labour activities among program recipients. This could be attributed to the lower financial returns for children attending elementary school compared to their counterparts in the short and medium term (Lee and Hwang, 2016). Given these conflicting findings, the present study contributes to the existing literature by examining the impact of the FHP on the likelihood of children participating in labour activities across all types of work without focusing on specific education levels or regions.

Using the most recent wave of the Indonesia Family Life Survey dataset from 2014, we employ the propensity score matching (PSM) technique to evaluate the impact of the FHP on child labour. The findings indicate that the FHP does not necessarily succeed in deterring children from engaging in both paid and unpaid work. This finding can potentially be attributed to the program’s stipulations, which only mandate children to attend school without necessitating a cessation of their work activities. Consequently, these conditions may not effectively address the child labour issue.

Family Hope Program
The Indonesian CCT program, FHP, was launched in 2007 with a primary focus on social welfare and poverty alleviation. This initiative forms part of the Indonesian government’s efforts to offer financial assistance to low-income households through cash transfers. By implementing this program, the government aims to elevate the standard of living and economic conditions of poor households in Indonesia, with a particular emphasis on improving education and health outcomes. The purpose of the program is to uplift the living conditions of poor households by investing in education and health, while also promoting behavioural changes through the provision of cash assistance (Cahyadi et al., 2020).

FHP employs a distribution model similar to that of other CCT programs when providing cash assistance. The FHP targets households considered very poor, as determined by Statistics Indonesia utilizing economic and asset-based indicators assessed through a proxy means test (PMT) (Alatas, 2011). Subsequently, Statistics Indonesia compiles a list of eligible households for program assistance, which is then submitted to the Ministry of Social Affairs (MoSA) for final approval. However, not all poor households qualify as beneficiaries. The selection process is conducted by Statistics Indonesia from a pool of households nominated for the FHP. It involves the use of health and education survey data to sift through
households based on demographic criteria by identifying those that align with the program’s requirements. Specifically, the MoSA outlines several components and eligibility criteria that beneficiary households must meet to qualify for the program.

1. Pregnant women and children aged 0–6 years old must be enrolled in a healthcare centre and attend regular general health check-ups.

2. School-age children fall into three categories: elementary school children aged 6–12 years old, secondary school students aged 12–15 years old and high school students aged 15–18 years old. To qualify, they must be registered and maintain a minimum attendance rate of 85% at school.

3. Elderly individuals aged above 70 years old and disabled individuals must be registered with social welfare and attend at least one annual session.

The cash assistance provided to FHP beneficiaries depends on the family’s specific circumstances, typically determined by the number of eligible members in the household as shown in Table 1. Specifically, the total amount is determined by a combination of set cash transfers and the number and ages of children within the household, with a maximum of four recipients per family. For example, if a pregnant mother has children between the ages of 0 and 6, she will be granted IDR 3,000,000 (USD 212) annually or IDR 750,000 (USD 53) per quarter, regardless of the number of children below the age of 5. If a mother has two children in primary school (6–12 years old) and one child in secondary school (13–15 years old), all of whom are attending school, she will receive IDR 3,300,000 (USD 233) per year or IDR 825,000 (USD 58) per quarter. On the other hand, a mother with children aged 0–6 and three children in primary school will receive IDR 5,700,000 (USD 403) annually. The amount of cash transfers is typically 15–20% of the estimated expenditure of poor households (Hartarto and Wibowo, 2023). The money is distributed to either the mother or another adult woman in the household every three months, either at a post office or an automatic teller machine.

Since its implementation in 2007, the cash received by FHP beneficiaries has undergone changes over the years, influenced by factors such as government budget allocation, economic conditions, and the components of assistance. Notably, from 2007 to 2014, high-school children were not included in the beneficiary category. However, as of 2015, the program expanded to encompass high school children and elderly individuals as eligible beneficiaries. The program’s beneficiary coverage was initially limited when it was first introduced in 2007, targeting only 338 thousand households from 7 out of 33 provinces in Indonesia. However, the coverage steadily expanded in the following years. By 2014, approximately 2,872,000 poor households in all 34 provinces of Indonesia were encompassed within the program.

**Empirical framework**

Numerous studies demonstrate the effectiveness of CCT programs in reducing child labour (Attanasio et al., 2010; de Hoop and Rosati, 2014; Del Carpio et al., 2016; Peruffo and Ferreira, 2017;...

<table>
<thead>
<tr>
<th>Type and amount of assistance in the FHP</th>
<th>Source(s): Courtesy of Ministry of Social Affairs 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed cash transfer</td>
<td>IDR 550,000</td>
</tr>
<tr>
<td>Cash transfer for each household by</td>
<td></td>
</tr>
<tr>
<td>a. Children less than 6 years old</td>
<td>IDR 2,400,000</td>
</tr>
<tr>
<td>b. Pregnant or lactating mothers</td>
<td>IDR 2,400,000</td>
</tr>
<tr>
<td>c. Elementary school children</td>
<td>IDR 900,000</td>
</tr>
<tr>
<td>d. Junior high school children</td>
<td>IDR 1,500,000</td>
</tr>
<tr>
<td>e. Senior high school children</td>
<td>IDR 2,000,000</td>
</tr>
</tbody>
</table>
In comparison to other social protection methods like UCT, CCT programs are notably more successful in curbing child labour and enhancing educational outcomes for children. This positive outcome is attributed to the additional income provided to poor households through these programs, which are dedicated to covering indirect and essential educational expenses. Simultaneously, parents mitigate the opportunity costs associated with child labour by opting to send their children to school rather than work (Rawlings, 2005). In a study conducted by Attanasio et al. (2010), the efficacy of the Familias en Acción program in Colombia was examined with a prerequisite of over 80% school attendance. The results indicated that the program successfully enhanced school attendance and had a ripple effect by reducing the hours children devoted to labour activities. Over the long term, some CCT programs are believed to yield positive labour market outcomes, including reducing youth unemployment, facilitating the transition from informal to formal labour for children in the future and leading to higher incomes for program beneficiaries (Parker and Vogl, 2018).

However, not all research findings demonstrate that CCT programs consistently succeed in eliminating child labour, either in terms of reducing the overall amount or working hours (Reynolds, 2015; Parker and Vogl, 2018; de Hoop et al., 2020; Cepaluni et al., 2022). Several factors contribute to the challenges faced by CCT programs in effectively reducing child labour. First, the conditions imposed on households typically focus on sending children to school but may not explicitly address the prevention of child labour participation. As a result, children may still engage in labour activities despite attending school. Second, the funding provided to low-income households through CCT programs might be relatively small and insufficient to cover educational expenses fully. Additionally, the financial support may not be enough to act as a significant deterrent for children and families to abandon child labour. Finally, the money received by poor households might not serve as an adequate substitute for balancing school and work. Parents may have limited control over their children's working hours, which can make it challenging to fully replace child labour with school attendance. Addressing these challenges and tailoring CCT programs to the specific contexts and needs of different communities may lead to more successful outcomes in reducing child labour.

The Bolsa Familia Program, despite being widely implemented, is often considered to have failed in effectively combating child labour. However, Peruffo and Ferreira (2017) emphasized that the reduction in child labour is closely related to the educational level of parents, which is typically linked to their income, and the additional funds received through a CCT program. Cepaluni et al. (2022) put forward a hypothesis that the income effect generated by CCTs could potentially offset the wage income of the child. Their study highlighted a perfect substitution effect, suggesting that the income effect might only lead to children substituting working hours for school hours rather than eliminating child labour. Consequently, the findings indicate that receiving money from a CCT program may not necessarily reduce the amount of child labour participation, and in some cases, it could even increase child labour in the short term.

In certain specific circumstances, cash transfer programs may inadvertently increase child labour participation. Reynolds (2015) found that the expansion of the Bolsa Familia CCT program in Brazil did not include funds for children aged 16 and 17 years old. Consequently, this program did not significantly influence the time allocation of these older children in terms of household chores or labour participation. The trade-off between school hours and work hours was statistically weak. Despite a 6–7% increase in children’s school attendance, this did not necessarily lead to a reduction in their working hours. Many children continued to attend school while also engaging in work to secure additional income, indicating that the program did not effectively address child labour in this age group.

While some literature indicates that CCT programs effectively increase school enrolment and children’s participation in education, the amount of cash transferred to low-income
households is often considered inadequate to cover the substantial costs associated with schooling. Expenses such as uniforms, transportation, books and other necessities can be financially burdensome for families. For example, evidence from the Pantawid Cash Transfer Program in the Philippines showed a 1.12% increase in school enrolment with the presence of the program (Catubig and Villano, 2017).

However, de Hoop et al. (2019) found that the cash provided by the Philippines government to poor households was insufficient to support children and cover the full cost of schooling, including their basic educational needs, even after enrolling in school. Consequently, the program did not effectively prevent children from engaging in labour activities to earn extra income to offset the shortfall in education expenses. Their study revealed a 5% increase in child labour participation even after receiving cash assistance from the Pantawid program. This suggests that although CCT programs may increase school enrolment, they may not fully eliminate the need for child labour to supplement educational expenses.

Data and methods

Indonesia family Life survey

The data in this study were obtained from the Indonesian Family Life Survey (IFLS), the most comprehensive household dataset for Indonesia. The IFLS is a continuous longitudinal survey that collects data from individuals, households, communities and facilities in Indonesia. It has conducted five waves of surveys, starting from 1993 (IFLS-1), followed by 1997/1998 (IFLS-2), 2000 (IFLS-3), 2007 (IFLS-4) and the latest one in 2014 (IFLS-5). The distinct characteristics of the data from the IFLS have contributed to its widespread use in previous research on child labour (Lee and Hwang, 2016; Hidayatina and Garces-Ozanne, 2019; Wardani et al., 2022). This large-scale population-based survey has been compiling data for more than 20 years, making it a valuable resource, especially for studies focussing on developing countries.

The data collected by IFLS cover a wide range of topics related to geographic characteristics, household characteristics, health, education, labour and other aspects relevant to households. For this study, the latest data from IFLS-5 in 2014 was utilized due to its substantial number of observations, covering 85% re-contact rate, and therefore considered to be of high quality with relatively low attrition (Strauss et al., 2016). In this study, we limited children aged between 5 and 17 years old in our sample, following the age range defined by the International Labour Organization (ILO). Specifically, we define child labour as those with the primary activity of working or helping to earn income during the past week, whether it is paid or unpaid.

Propensity score matching

The primary objective of this study is to examine how the FHP influences the likelihood of child labour participation. To achieve this, the study employs an impact evaluation approach to quantify the difference in outcomes between households benefiting from the FHP and those that would have occurred if they were not part of the program. Since it is not practically possible to directly observe both treated (program beneficiaries) and untreated (non-beneficiaries) situations for similar units, control units are utilized as a suitable proxy for the counterfactual. These control units are chosen based on their comparability to the treatment group. By using control units as a comparison group, the study can effectively assess the program’s effects on child labour participation and conclude the program’s impact on the targeted outcomes.

When assessing the impact of the FHP, selection bias is an important factor to consider. In this study, we use survey data that is not specifically intended for evaluating the program’s
impact, resulting in non-random program placement. However, the survey data provide detailed characteristics that can serve as statistical controls. Participation in the FHP is determined by household eligibility criteria and various observable indicators in the PMT to identify poor households (Alatas, 2011). Consequently, any observed or unobserved factors influencing program participation may lead to bias in our estimations. To address this concern, it is crucial to account for both observable and unobservable variables, ensuring that the participant and non-participant groups are statistically comparable. By controlling these factors, we can mitigate potential bias and obtain more accurate assessments of the program’s impact. Following previous studies in similar programs (Pais et al., 2017; Zwane et al., 2022; Hartarto and Wardani, 2023), we implement PSM as an estimation strategy in this study.

In this study, we only address potential bias arising from observable factors by employing PSM to balance the characteristics observed between the participant and non-participant groups. This becomes a limitation in our study as this method is unable to control for unobservable characteristics. However, the advantage of PSM over regression-type estimators lies in its nonparametric nature as it assumes a flexible functional form to estimate the outcomes (Rosenbaum and Rubin, 1983). PSM creates a comparison group of non-participants with observable characteristics that are statistically similar on average to those of the program participants (Rubin and Thomas, 1996). This method allows us to account more effectively for confounding variables and enhance the precision of our impact evaluation.

To implement the PSM, we begin by estimating a probit model to assess the likelihood of individuals participating in the FHP during 2014. The selection of covariates in the PSM model is based on various factors that influence both program participation and the outcomes. Specifically, we employ a set of covariates from the PMT, which determines the poverty status of households in Indonesia. These covariates serve as the foundation for establishing the program participation status while also considering location-related aspects, which are essential in estimating the propensity score.

Equation (1) represents the estimation of the propensity score of receiving FHP denoted as \( T_i \), which is based on the individual’s location (\( L_i \)) whether they live in urban areas and Java, and a set of variables from the PMT. These variables encompass various characteristics, such as those related to children (\( C_i \)), household heads (\( HH_i \)) and housing (\( H_i \)). Child characteristics encompass age and gender, while household head attributes consist of marital status, gender, income and education. Housing characteristics include whether the households have access to internet and electricity and own television. By incorporating these covariates, we gain a comprehensive understanding of the likelihood of a household being a participant in the program. This robust approach aids us in effectively comparing program participants with non-participants, leading to more reliable conclusions.

\[
T_i = \alpha + \beta C_i + \gamma HH_i + \delta H_i + \rho L_i + \epsilon
\] (1)

The estimated propensity score is utilized to find suitable matches between program participants and non-participants. For this purpose, we employ various matching techniques, namely nearest neighbour matching without replacement, with replacement, and with a caliper to validate the reliability of our estimates. The choice of matching technique can significantly influence the estimates, making it crucial to ensure robustness in our analysis.

According to Wagstaff et al. (2009), achieving a better statistical balance between the treated and matched control group holds greater importance in PSM analysis than finding the ideal model for the outcome variables. To assess covariate imbalance before and after matching, we create a scatterplot that juxtaposes the standardized bias with the variance ratio of residuals, following the approach by Leuven and Sianesi (2003). This method serves as an effective way to evaluate the success of the matching procedure (Rosenbaum and
Rubin, 1983). After the matching process, we expect to observe a substantial reduction in standardized bias and no significant differences in covariate means between both groups.

Results and discussion
Summary statistics
Table 2 reports descriptive statistics of the variables in our sample during the FHP implementation in 2014. These include the full sample, its breakdown and the mean differences between program participants and non-program participants before being matched. There are 10,992 children aged 7–15 years old observed as our sample. The table provides statistical information on child labour as the outcome variable, beneficiary households and covariates employed in the PMT on equation (1) to determine the economic status of households eligible for FHP participation. As mentioned earlier, these covariates encompass child characteristics, household head attributes, housing features and geographical location information to account for regional differences.

The prevalence of child labour is around 2% in our full sample. The proportion of child labour in FHP households is statistically higher, which is 4%, compared with non-FHP households. About 5% of the children in our full sample are from households receiving FHP. The information regarding FHP participation is retrieved from self-reports on whether the household has ever received a cash transfer from FHP. In terms of child characteristics, 52% of them are male and the average age is 11 years old. Regarding the household heads in the full sample, most of them are male (89%), while only 6% of them are single parents. About 35% of the household heads have annual income lower than IDR 7,200,000 (USD 607) with up to nine years of schooling level or equivalent to junior secondary school. The household head attributes seem statistically different between FHP and non-FHP participants. The proportion of single parents, male household heads and having annual income less than IDR 7,200,000 is statistically higher in FHP participants, with lower education levels by three

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full</th>
<th>Participants</th>
<th>Non-participants</th>
<th>Mean diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child labour</td>
<td>0.02</td>
<td>0.04</td>
<td>0.02</td>
<td>0.02***</td>
</tr>
<tr>
<td>FHP</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>10.8</td>
<td>11.09</td>
<td>10.73</td>
<td>0.35**</td>
</tr>
<tr>
<td>Male</td>
<td>0.52</td>
<td>0.52</td>
<td>0.52</td>
<td>0.00</td>
</tr>
<tr>
<td>Household head characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmarried</td>
<td>0.06</td>
<td>0.07</td>
<td>0.05</td>
<td>0.02**</td>
</tr>
<tr>
<td>Male</td>
<td>0.89</td>
<td>0.86</td>
<td>0.90</td>
<td>0.03**</td>
</tr>
<tr>
<td>Annual income (&lt;IDR 7,200,000)</td>
<td>0.35</td>
<td>0.52</td>
<td>0.34</td>
<td>0.18***</td>
</tr>
<tr>
<td>Education (years)</td>
<td>8.92</td>
<td>5.91</td>
<td>9.09</td>
<td>-3.17***</td>
</tr>
<tr>
<td>Housing attributes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet</td>
<td>0.33</td>
<td>0.18</td>
<td>0.34</td>
<td>-0.15***</td>
</tr>
<tr>
<td>Electricity</td>
<td>0.99</td>
<td>0.97</td>
<td>0.99</td>
<td>-0.09***</td>
</tr>
<tr>
<td>Television</td>
<td>0.93</td>
<td>0.85</td>
<td>0.94</td>
<td>-0.09***</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0.59</td>
<td>0.50</td>
<td>0.59</td>
<td>-0.09***</td>
</tr>
<tr>
<td>Java</td>
<td>0.51</td>
<td>0.60</td>
<td>0.51</td>
<td>0.10***</td>
</tr>
<tr>
<td>Observation</td>
<td>10,992</td>
<td>568</td>
<td>10,424</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Descriptive statistics
Source(s): Authors’ own work
years on average than non-FHP participants. In the full sample, most of the households have access to electricity (99%) and own television (93%), while only one-third of them have access to the internet. These housing attributes are statistically different between FHP and non-FHP participants. Those receiving FHP relatively have less access to the internet, electricity and television. Half of the children in the full sample live in Java, while 60% of them reside in urban areas. The proportion of FHP participants living in urban areas is lower than non-FHP participants, but it is relatively higher in Java.

**Empirical results and analysis**

Table 3 presents the outcomes of propensity score estimation through probit regression. In this study, the dependent variable is a binary measure set to 1 for households claiming to be recipients of FHP and 0 for non-recipients. The results demonstrate that the probability of FHP participation aligns well with the program’s targeting. Notably, the education level of the household head plays a significant role in predicting participation, revealing that those with higher education levels are less likely to be part of the program. Household head’s income also matters given that those with income less than IDR 600,000 per month are more likely to be the FHP recipients.

Regarding housing conditions, FHP recipients display a lower likelihood of having access to television and the internet. Geographical location also plays a crucial role in program expansion. Specifically, residing on Java increases the probability of being an FHP participant, possibly attributable to the higher concentration of population living on Java compared to other islands.

Once the propensity score is calculated, we check whether there is any observation falling out of the common support region. We found all observations falling in the support region regardless of the matching techniques with 568 participants and 10,424 non-participants. Then, we perform balance tests to analyse the distribution of covariates between FHP and non-FHP households based on the propensity score. Figure 1 illustrates the covariate balance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coef.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>−0.000</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.000</td>
<td>(0.004)</td>
</tr>
<tr>
<td><strong>Household head characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>0.001</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Income (&lt;IDR 600,000/month)</td>
<td>0.015***</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Education</td>
<td>−0.006***</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Male</td>
<td>−0.001</td>
<td>(0.006)</td>
</tr>
<tr>
<td><strong>Housing attributes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>−0.023</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Television</td>
<td>−0.019**</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Internet</td>
<td>−0.015***</td>
<td>(0.004)</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0.005</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Java</td>
<td>0.020***</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Observations</td>
<td>10,992</td>
<td></td>
</tr>
</tbody>
</table>

Note(s): Standard errors in parentheses

***p < 0.01, **p < 0.05, *p < 0.1

Source(s): Authors’ own work

Table 3. Propensity score model for FHP participation
both before and after matching. The close alignment of the cross marker near the zero axis signifies that the standardized differences between the groups remain minimized after matching, indicating a successful and satisfactory matching process.

Table 4 reports the impact of receiving FHP on the likelihood of children participating in work activities. This table shows the average treatment effect on the treated (ATT) estimates of the FHP using several matching methods as mentioned earlier. ATT specifically focuses on estimating the average treatment effect for the individuals or households who received the treatment. It quantifies the difference in outcomes between those who received the treatment and those who did not among the group of individuals who were treated. The estimates show that FHP does not have any statistical impact on child labour across all matching techniques. This suggests that receiving the FHP does not consistently aid low-income households in reducing the likelihood of their children ceasing labour activities. This finding is consistent with previous studies examining the impact of CCT programs on child labour in various contexts (Ravallion and Wodon, 2000; Cacciamali et al., 2010; Cepaluni et al., 2022). For further analysis in Table 4, we perform a robustness check by disaggregating our sample based on localities. It seems that although there is a different sign, FHP does not have any statistical impact on child labour, regardless of whether the households live in either urban or rural areas.

The effectiveness of the FHP in reducing child labour incidence seems to be failing due to several factors. First, the money transferred through FHP is likely to be inadequate, especially

Figure 1. Covariate distribution by matching technique

Source(s): Author’s own work
considering the increasing cost of living and rising schooling fees (Hartarto et al., 2021). Similar to the findings in CCT programs in the Philippines and Brazil (Peruffo and Ferreira, 2017; de Hoop et al., 2019), the cash subsidies provided to poor households in the FHP are too small to cover all the education expenses and alleviate the financial burden on low-income families (Triningsih and Ichihashi, 2010). Research by Lee and Hwang (2016) supports this view as they found evidence that the funds transferred to children through FHP in Indonesia are not sufficient to subsidize their needs, which may lead them to continue participating in the workforce. Moreover, the coverage of targeted beneficiaries may not reach all poor households, leaving some without access to the program’s benefits. Additionally, the conditions applied to the beneficiaries, which only require children to attend school without requiring them to stop working, may not effectively address the issue of child labour. The trade-off between schooling hours and working hours is somewhat weak, leaving the children remained continue to attend school and go to work for some additional income (Reynolds, 2015). Overall, the combination of insufficient funding, limited coverage and incomplete conditions may contribute to the ineffectiveness of the FHP in curbing child labour participation.

The empirical analysis and findings of this study offer valuable insights into the impact of government social protection in the form of cash transfers on child labour incidence. The policymakers should prioritise the design, structure and coverage of the FHP. Increasing the budget allocated to these programs will be necessary to address the financial constraints faced by low-income families. Furthermore, the government should adopt a more comprehensive approach by considering all potential factors influencing child labour, rather than solely relying on providing cash support to families. Emphasizing the enhancement of education quality and access for all children can have a more profound and lasting impact on reducing child labour in the country. Urgent action in these areas will foster more effective efforts in the fight against child labour in Indonesia, ultimately contributing to the achievement of a safer and more prosperous future for all children in the country.

### Conclusion

The primary objective of this study was to evaluate the impact of the Indonesian CCT program, known as the Family Hope Program (FHP), on child labour. The purpose of the CCT program is to provide financial support for education-related expenses like school uniforms, transportation and other schooling costs. An important desired outcome of this program is to

<table>
<thead>
<tr>
<th>ATT</th>
<th>Full sample</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NN, N = 1 no replacement</td>
<td>NN, N = 1 with replacement</td>
<td>Caliper, N = 2 Cal(0.01)</td>
</tr>
<tr>
<td>Child labour</td>
<td>0.005 (0.012)</td>
<td>-0.014 (0.014)</td>
<td>0.021 (0.019)</td>
</tr>
<tr>
<td></td>
<td>0.004 (0.013)</td>
<td>-0.004 (0.015)</td>
<td>0.021 (0.020)</td>
</tr>
<tr>
<td></td>
<td>0.004 (0.011)</td>
<td>-0.004 (0.012)</td>
<td>0.021 (0.018)</td>
</tr>
</tbody>
</table>

Note(s): Standard errors in parentheses

***p < 0.01, **p < 0.05, *p < 0.1

Source(s): Authors’ own work

Table 4. Impact of FHP on child labour
improve educational attainment by increasing school enrolment, which in turn serves as a constructive way to keep children occupied and discourage their involvement in labour activities. Therefore, it is anticipated that the FHP can effectively counter the opportunity cost of child labour by providing an income effect, while also offering a substitution effect through conditionalities that encourage children to attend school rather than engage in labour work.

Using the PSM strategy, our study suggests that the FHP does not effectively reduce the likelihood of children engaging in labour activities. However, our study is unable to empirically investigate the underlying factor responsible for the lack of a significant result. Our interpretation is still rooted in the established body of knowledge, suggesting that there are multiple factors contributing to the persistence of child labour even after the program's implementation. This aspect remains unexplored due to limited information in our dataset and the relatively small sample size, which could potentially diminish the statistical power of our estimates. Future studies in this area, especially those evaluating the impact of the FHP, should address this particular issue.

Notes

References


**Corresponding author**
Romi Bhakti Hartarto can be contacted at: romi.hartarto@umy.ac.id

---

For instructions on how to order reprints of this article, please visit our website: [www.emeraldgrouppublishing.com/licensing/reprints.htm](http://www.emeraldgrouppublishing.com/licensing/reprints.htm)

Or contact us for further details: permissions@emeraldinsight.com