# INCREASING EFFECTIVENESS OF CONDITIONAL CASH TRANSFER FOR ERADICATING CHILD LABOR: INDONESIA PROGRAM KELUARGA HARAPAN

**By**

**HWANG, Miae**

**THESIS**

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
for the degree of

MASTER OF DEVELOPMENT POLICY

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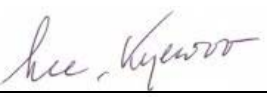
Professor Kye Woo LEE, Supervisor 

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# ABSTRACT

## INCREASING EFFECTIVENESS OF CONDITIONAL CASH TRANSFER FOR ERADICATING CHILD LABOR: INDONESIA PROGRAM KELUARGA HARAPAN

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The study aimed to analyze whether subsidies from the Indonesian conditional cash transfer program were successful in reducing the participation of children in the labor force. One of the expected effects of conditional cash transfers is reducing child labor by making children affordable to spend more time in school instead of the work place. However, the Indonesian conditional cash transfer program, Program Keluarga Harapan, did not improve child labor significantly. To figure out the reasons for this failure, this study conducted a financial analysis of children who are participating in the program by using the Indonesia Family Life Survey data from the RAND Corporation and Indonesian statistical data. The results demonstrated that the amount of subsidy was too low to make children go to school, driving children to choose to work instead of studying; hence, reducing educational expenditure or increasing subsidies by incorporating scholarship is required. Furthermore, when the study compared program beneficiaries and non-beneficiaries with future scenarios, the results showed that not participating in the program would be better for children who already have dropped out of the school. On the other hand, it illustrated that acquiring a diploma is important once they start studying in school.

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# 1. Introduction

## 1.1 Purpose of This Study

The purpose of this study is to find out why Indonesian conditional cash transfer program, Program Keluarga Harapan, failed to reduce child labor in Indonesia and to suggest how we can reduce child labor by maximizing the effects of the program.

## 1.2 Statement of the Program

Generally, conditional cash transfer is one of the ways to deal with the child labor issue. The government or other sectors provides money to a household when family members send children to school, and increasing school enrollment leads to a decrease of child labor since children cannot work while they are studying. The Indonesian government also implemented a conditional cash transfer program called Program Keluarga Harapan (PKH).

However, many evaluation papers such as *Main Findings from the Impact Evaluation of Indonesia's Pilot Household Conditional Cash Transfer Program* written by Alatas in 2011, mentioned that the program did not improve children from very poor households school enrollment and did not reduce their waged labor significantly. At 95%, the elementary school enrollment rate in Indonesia was already high, but it did not lead to a meaningful decrease in waged labor working hours, since school drop-out rates were still high. About 20% of Indonesian primary or junior-high school students, approximately 750,000, dropped out from school in 2010[1].

[1] Tifa, A. (2011, January 3). Education Ministry targets reduction in drop-out rate. *The*

### 1.3 Importance of This Issue

Considering human rights and economic development, dealing with the child labor problem is important. First, child labor causes children's health problems. It is noteworthy to mention that Indonesian children still work in hazardous conditions and unsafe environments where elements like inflammable and gaseous gear, toxic chemicals, dangerous heights, and perilous machinery and equipment severely threaten children's lives (Aldobrandini 2012). Without a doubt, eradicating child labor, especially the worst form of child labor in Indonesia, is a truly global and important issue.

Second, child labor disturbs economic development in the long-term. This is due to the fact that the accumulation of human capital is a key factor of economic development in the long run. Human capital investment in the fields of education and health are especially important since they have a positive relationship with productivity (Galli 2001). However, children cannot be educated because of the work they are required to do. The working hours of children in Indonesia are above the standard level, which means that they have no time to go to school. Even though they can enroll in schools, they do not have a sufficient amount of time to do homework, or the physical strength to simultaneously perform study and work. This unfortunate phenomenon can cause low productivity and affect the domestic economy in the long term. Therefore, eradicating child labor is crucial for personal and national development.

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*Jakarta post*. Retrieved from http://www.thejakartapost.com/news/2011/01/03/education-ministry-targets-reduction-dropout-rate.html.

## 1.4 Research Questions

To eradicating child labor, we need to find why children keep working. Many literature reviews mentioned that main reasons of child labor were related to economic problems. Therefore, this study also assume that conditional cash transfer is insufficient for children's living standards and expenditures, so they decide to work instead of participating in the program. To illustrate this, the study will see two hypotheses, 1) $H_1$: Net revenue of participants in the program is lower than that of non-participants and 2) $H_1$: Net Present Value (NPV), i.e., the present value of net benefit, of participating in the program is lower than NPV of not participating in the program. For calculations, program's subsidy, children's average income, education expenditure and expected average income based on educational achievement will be used for analysis.

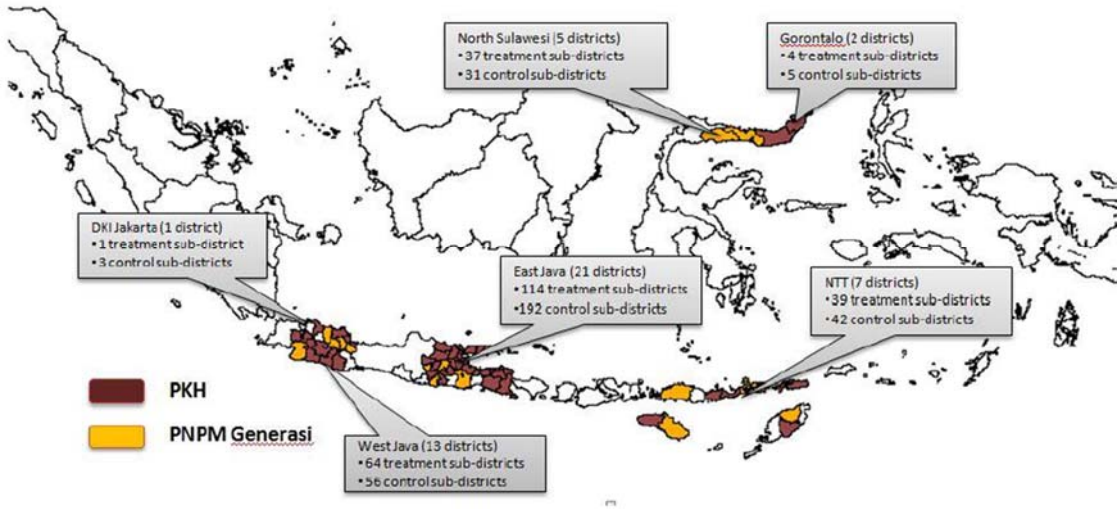
This paper is organized in 5 chapters and a literature review on child labor, education, and conditional cash transfers will be introduced in Chapter 2. In chapter 3, the methodology and data used for the analysis will be discussed, followed by chapter 4 which will show the results of the analysis of data concerning children's net benefits from participating in and not participating in the program. Chapter 5 will discuss summaries of findings, program suggestions, and the conclusion.

# 2. Literature Review

Program Keluarga Harapan, the definition of child labor, conditional cash transfers, the current child labor situation in Indonesia, as well as the effects of conditional cash transfers on education and child labor will be reviewed in this chapter prior to addressing methodology and data.

## 2.1 Program Keluarga Harapan

Program Keluarga Harapan has been implemented since 2007 in 5 provinces. By 2012, it was expanded to 25 out of 33 provinces with 118 districts targeted and about 778,000 households participating in the program led by the Ministry of Social Affairs, Kemensos.




[Figure 1] Map of PKH Areas[2]

Like other cash transfer programs, Program Keluarga Harapan aims to mitigate

[2] *World Bank 2012*[2]

household poverty in the short-term, while improving human capital investment by increasing school enrollment and improving health conditions of children and pregnant women in the long term. The provision of subsidies requires the fulfillment of the following conditions: for pregnant women, they must take iron supplements and visit an office for post-natal care; for children aged less than 6 years, they must complete immunization and regularly receive health checks; and for children aged 6 to 15 years, they must achieve 85% school attendance. The amount of subsidy is IDR 800,000 per year for children aged less than 6 years, and pregnant women. Primary school students (age 7-12) receive IDR 600,000 per year, while secondary school students (age 13-15) receive IDR 1,000,000 per year. Since the fixed and base transfer is IDR 200,000, the remaining amount of transfer varies, depending on the age of the targeted population joining the program. The minimum value of subsidies is IDR 600,000, and the government limited the transfer up to IDR 2,200,000 as the maximum transfer regardless of the number of children per household.

In 2011, 4 years since the program started, the World Bank set indicators, such as poverty level of beneficiaries, child malnutrition level, consumption of high-energy and high-protein food, average education attainment level, attendance rate of children, the number of children's working hours, and the rate of children's work participation, in order to evaluate this CCT program (Alatas 2011). Surprisingly, most of the indicators improved compared to the baseline, but the number of working hours and the rate of work participation indicated that the program did not mitigate child labor. According to the results, program participants, especially aged 7-12 years old, decreased waged work (during the last month) by only 0.6%. The paper mentioned that the results can be caused by insufficient subsidies and absence of timely distribution of subsidies for children during

their transition to higher grades.

## 2.2 Definition of Child Labor

The Indian Child Labor Act [1986][3] defines a child as "Any person who has not completed his fourteenth year of age", so work of children whose ages are under 14 years old is regarded as child labor. UNICEF defines child labor as when a child is "…involved in child labor activities under the following classification: (a) children 5 to 11 years of age that during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic work, and (b) children 12 to 14 years of age that during the week preceding the survey did at least 14 hours of economic activity or at least 42 hours of economic activity and domestic work combined".[4] The ILO defines 'Child labor' as "work that deprives children of their childhood, their potential and dignity, and that is harmful to their physical and mental development".[5] The word 'work' used in the aforementioned definition refers to work that is "mentally, physically, socially or morally dangerous and harmful to children, and interferes with their schooling by depriving them of the opportunity to attend school, obliging them to leave school prematurely, or requires them to attempt to combine school attendance with excessively long hours and heavy work.

In this paper, 'child labor' will be defined as children whose ages are between 7 years old and 15 years old working more than one hour per week, since in Indonesia all children are

[3] The Child labor act is enacted in India and it prevents children whose ages are below 14 years old from working. The act was revised in 2000, and 2009.

[4] UNICEF. Retrieved from http://www.unicef.org/infobycountry/stats_popup9.html.

[5] ILO. Retrieved from http://www.ilo.org/ipec/facts/lang--en/index.htm.

required to attend school and complete the junior-secondary schooling.

### 2.3Indonesian Child Labor

The paper is based on an Indonesian program, so the following reviews have to do with child labor in Indonesia, how many children work in Indonesia, what the motivation for working is, what kind of areas they work in, and what the impact on education is.

According to a UCW report (2012), Indonesian children who work, irrespective of the kinds of tasks they perform, were estimated to have been 6.7 percent of the child population or 2.3 million children in 2009. The main reason for child labor is based on the economic situation. Krisztina Kis-katos and Gunther G. Schulze (2010), Priyambadam, et al. (2005), Amin, et al. (2004) claimed that children's income, which is typically crucial for household survival, gives way to the increasing supply of child labor. Income shock and unemployment of adults also increases the demand of child labor since children could make up for the loss from income shock by working. Similarly, unemployment of adults and the supply of child labor have a positive relationship. Children are increasingly expected to work when one of the adults in the family loses his or her job or does not have the opportunity to work. Similarly, Priya Ranjan's (1999) study supports this idea in another way. He found that formal credit markets, especially long-term credit markets, are desperately needed to make children go to school. For the poor, a loan is the easiest way to acquire assets. Unfortunately, it is difficult for the impoverished to have that opportunity since there is nothing that guarantees their credit. Therefore, they send their children not to school but to work.

Central Board of Statistics (BPS) & ILO-IPEC (2010) mentioned that about 57.2 percent of working children aged between 5 and 17 are employed in agriculture, forestry,

hunting, and fishery. In the agriculture sector, children especially work at plantations where they produce rubber, palm oil, and tobacco. Such occupations are hazardous to children since there are many factors that may possibly harm the children. These working conditions can easily harm and disable the children. Also, working affects the children's education.

Argrist and Lavy (2009), Fiszbein and Shady (2009), Hnushek, et al. (2008), and Glewwe and Kremer (2006) repeatedly illustrated that child labor induces children to quit their schooling. They found that when children's income, which can be understood as an opportunity cost to children in school, rises; the school dropout rates also increase. Since older children and boys tend to get higher salaries, the school drop-out rates of boys and children aged 11-13 is also higher. Even though working children succeed in continuing their schooling, the Aldobrandini (2012) showed that working children are less likely to attend school than non-working children, and, needless to say, working hours and school attendance had a strong and negative relationship. Considering that the average working hours of children is about 24.2 hours in a week, working children have less time to study, so their highest attained grade is lower than non-working children and they therefore typically drop out of school (Aldobrandini 2012).

To deal with the problem, the Indonesian government tried to increase school enrollment and reduce child labor by supporting poor households through many programs.

**[Table 1] Governmental Program for Reducing Child Labor and Education**

| ***Name*** | ***Type*** | ***Year*** |
|---|---|---|
| **Programme Bantuan Tunai** | Unconditional Cash Transfer Program | *2005* |
| **Programme Keluarga Harapan** | Conditional Cash Transfer | *2007* |

| | Program | |
|---|---|---|
| **Generasi Sehatdan Cerdas** | Community CCT Program | *2007* |
| **Raskin** | Rice Subsidy Program | *2006* |
| **Urban Poverty Program** | - | *1998* |
| **Kecamatan Development Program** | - | *1998* |
| **Programme Nasional Pemberdayan Masyarakat** | National Program for Community Empowerment | *2006* |

**2.4School Enrollment, Child labor and Conditional Cash Transfer**

Under the Conditional Cash Transfer review, the definition of Conditional Cash Transfers and their impact on school enrollment, and child labor will be explained.

The Conditional Cash Transfer program (CCT) is a program offering cash to poor families and it comes to the fore as one of the effective ways for eradicating child labor. Originally, CCT programs were designed to increase children's school enrollment (attendance) and to enhance household members' health by muting household poverty. CCT usually requires family members to go to health centers for regular health checkups and children to go to school with at least 85% attendance. The impact of CCT is substantial, Deon Filmer and Norbert Schady (2009) mentioned that about 29 countries including Brazil, Mexico, Cambodia, and Ecuador have implemented CCT.

For example, a study by Deon Filmer and Norbert Schady (2011) on Cambodia's CCT Program called CESSP Scholarship Program (CSP) demonstrates a positive relationship between CCT and school enrollment. The program distributed $45 per year to each household which is equal to 2 or 3% of household expenditure. The improvement in school drop-out rates was about 25% compared to the non-beneficiaries whose school completion rate was

only 44%. Opptoruds (the CCT program in Mexico) showed similar outcomes. Alain de Janvry, et al. (2006), LB Rawlings and GM Rubio (2005), and Alain de Janvry and Elisabeth Sadoulet (2004) focused on the impact of the program. Households enrolled in the program received subsidies depending on the number of children and not surprisingly, results in children education were significant. Without the program, just 36% of the students enrolled in secondary school, but this figure increased to 76%.

Additionally, CCT reduces child labor as an indirect benefit. Increasing school enrollment implies that children who work or do nothing start to go to school. For working children, the time for working is replaced by time spent in school so it obviously reduces child labor. Nicola Jones and Eliana Villar Marquez (2014), Fernand Ferandez and Victor Saldarriaga (2014) and Elizaveta Perova and Penosvakis (2009) illustrated that CCT shrinks child labor. In Peru, the Juntos (which means “together”) Program was implemented and its influence extended to paid and unpaid working children. Once per two months, a treatment group received 200 Soles ($63) and the result calculated from Young Lives data in 2009 showed that the paid working children in a beneficiary group were 10 times less than those in a non-beneficiary group. Lorraine Dearden, et al. (2009) also proved the positive relationship between CCT and child labor. Unlike the Juntos Program, Education Maintenance Allowance in the United Kingdom reduced child labor by preventing inactive children from becoming workers. The program transferred subsidies corresponding to 12% of household income to families earning less than £ 13,000. The scholarship value was enlarged for full-time students by 6.7%.

However, in some cases it appears that the poorest household children do not follow the general outcome. Even though they could get the subsidy by going to school and get more labor earnings in the future, they chose work instead of studying. Dimo, et al. (2013)

illustrated this phenomenon with a Randomized Controlled Trial (RCT) done in China. The project randomly selected people in a village and gave them 500 RMB. Contrary to a control group which had 13.3%working children, the treatment group had only 5.3% working children, showing an 8% difference. However, it was not significant to the poorest children group. The study found that they were usually working at off-farm jobs and earned 100RMB per month. To them, participating in that program causes damages to their household economy. Eric V. Edmonds A., and Maheshwor Shrestha (2014) focused on children's opportunity cost showing the Nepal CCT Program case. They argued that even though it reduced working girls in weaving by 75% and prevented them from failing school exams by 66%, the researchers could not find net returns to education, stressing that foregone child labor earnings should have been considered.

The reviews illustrated that impact of CCT not always equally effects to all household. For the poorest household children, subsidy from the participating in the CCT program does not cover schooling expenditure so they tend to not go to school but to work. This phenomenon can be one of the reasons of failing CCT in Indonesia. Even though many evaluation on Indonesia CCT program, Programme Keluarga Harapan, showed the impact of the program, but there was no paper mentioned on opportunity cost of participating in program. They just mentioned that the inappropriately designed subsidy distribution time may failed to increased school enrollment in secondary school and reducing working children in that age. Therefore, this paper will examine whether financial transfer covers living expenses for educational expenditure and is higher than minimum living costs in the short-term. Also, in the long-term, the study will check whether NPV of participating in the program is higher than NPV of not participating in the program. For participants, subsidies from the program, their reduced income as a result of less working hours (because of

schooling), and higher expected income by acquiring diploma will be regarded as revenues, while educational expenditure and living costs are regarded as expenditures. For non-participants, their current income from full-time child labor and their expected income lower than that of educated children are considered as revenues, and only cost of living is their expenditure.

Next chapter will introduce what methodology and data will be used for the proving hypothesis.

# 3. Methodology and Data

From the literature reviews which mentioned that high opportunity cost is the one of the important barriers to participating in the program, and it was concluded that the insignificant results of PKH on education and child labor also were caused by high opportunity costs of participating in the PKH and attending school. To verify such assumption, the study will examine whether or not participating in the PKH incurs high opportunity costs by calculating private returns of participating in the PKH using private financial analyses.

## 3.1 Methodology

To determine the opportunity cost, two hypotheses will be examined.

1) $H_0$: Net revenue of participating in the program is higher than or same with that of non-participating children
   $H_1$: Net revenue of participating in the program is lower than that of non-participating children.

2) $H_0$: NPV of children participating in the program is higher than or same with the NPV of non-participants in the program.
   $H_1$: NPV of children participating in the program is lower than NPV of non-participants in the program.

To compare the revenue and expenditure of participating in the program, this study categorizes the children into groups. Children who are currently enrolled in school face a decision of whether to continue to studying while receiving the subsidy (participating in PKH) or to start full-time work while giving up schooling (not participating in PKH). Children are divided into 6 groups. The first 4 groups are comprised of children participating in the PKH, while the others include children not participating in PKH since we do not know at what time a child will be forced to decide to study or work.

[Table 2] Group of Children participating in PKH

| | Age | Participate in PKH | Attend to Primary school | Finish Primary school | Attend to Junior-high school | Finish Junior-high school |
|---|---|---|---|---|---|---|
| **A** | 7 - 12 | O | O | O | X | X |
| **B** | 7 – 12 | O | O | O | O | X |
| **C** | 7 – 12 | O | O | O | O | O |
| **D** | 13 - 15 | O | O | O | O | O |

[Table 3] Group of Children not participating in PKH

| | Age | Participate in PKH | Attend to Primary school | Finish Primary school | Attend to Junior-high school | Finish Junior-high school |
|---|---|---|---|---|---|---|
| **E** | 7 - 12 | X | X | X | X | X |
| **F** | 13 - 15 | X | O | O | | X |

The groups are categorized as follows:

A. Children whose ages are between 7 -12 and participate in the PKH. They attend

primary school and finish even though the program subsidy is provided for only 4 years. However, they do not continue schooling after completing primary education.

B. Children whose ages are between 7 -12 and participate in the PKH. They attend primary school, finish and enroll in junior-high school even though the program subsidy is only provided for 4 years. However, they do not complete secondary school.

C. Children whose ages are between 7 -12 and participate in the PKH. They attend primary school, finish it and attend junior-high school until they complete secondary schooling, even though the program subsidy is only provided for 4 years.

D. Children whose ages are between 13 -15 and participate in the PKH. They attend junior-high school up to completion.

E. Children whose ages are between 7 -12 and not participate in the PKH. They do not experience schooling and have no plan to.

F. Children whose ages are between 13 -15 and participate in the PKH. They have already acquired a primary school diploma even though they are not enrolled now.

For the analysis, this study will calculate the net revenue of participating in the program on short-term (5 years), Mid-term (10 years) and long-term (until retiring age) bases. The classifications of these periods are as follows:

a) Calculate until 20 years old, which is 5 years from the age of 15[6].

b) Calculate until 25 years old, which is 10 years from the age of 15.

[6]15 years old that ILO set as minimal age for work will be the starting point.

c) Calculate until 60 years old, which is the average retirement age.

However, the starting point of the calculation will vary since children can start the program in any age as mentioned above. Therefore, we will not consider previous educational expenditure, expenditure before the program, because such expenditures are sunk costs.

To estimate the NPV and net revenue of participating or not participating in the PKH, subsidy, current income, expected income and education expenditure will be used.

[Table 4] Variables of Children participating in PKH

| **Income** | **Subsidy, Current income, Expected income** |
|---|---|
| **Expenditure** | Education expenditure, Cost of living |

[Table 5] Variables of Children not participating in PKH

| **Income** | **Current income, Expected income** |
|---|---|
| **Expenditure** | Cost of living |

### 3.2 Data

Data of child labor income and education expenditure in Indonesia are taken from the Indonesia Family Life Survey (IFLS) 4 which was done by RAND Corporation in 2007. Indonesia Family Life Survey (IFLS) has been implemented once every 4 years and it covers only 13 of the 27 provinces in Indonesia. Nevertheless, using it is reasonable since surveyed areas cover PKH areas and 83% of Indonesians live in those 13 provinces. Educational expenditure contained not only primary and secondary schools but Islamic schools as well, while child labor income only contained general (none religious) elementary schools and

general (none religious) junior-high schools, since samples of Islamic schools were too small to use as they were only 8. To avoid double counting, the study deducted cost of living from the educational expenditure. Children participating in the program also work for a part-time job (11.6 hours per week), while non-participants work for a full-time job (24.2 hours per week) (Aldobrandini 2012). Therefore, the study added the current income from both participants and non-participants into the calculation.

Information on the program subsidy was taken from the social assistance program and public expenditure review 6 on PKH conditional cash transfers written by the World Bank in 2012. Children whose age are 7-12 receives IDR 60,000 per year while children whose age are 13-15 receive IDR 1,000,000 per year. Expected income and living cost were taken from Badan Pusat Statistik (BPS-Statistics Indonesia). However, a child's living costs were derived from 2/3 of the cost of living per capita which does not capture expenditures on education; the reason for using 2/3 of the cost of living is that a child spends less than an adult does. To establish expected income, average income based on educational achievement was used instead of using life time earnings.

# 4. Analysis

## 4.1 Net revenue and Subsistence Income

During the period in which children participate in the program for 4 years, the total net revenue of participating in the program showed negative figures. Even though they received subsidy, they spent a lot of money on education, and their earnings also declined because of shortened working hours.

[Table 6] Net Revenue of Participating in PKH

[Unit: IDR]

| | | **PRIMARY SCHOOL CHILDREN** | | **JUNIOR-HIGH SCHOOL CHILDREN** | |
|---|---|---|---|---|---|
| | | Participants | Non-Participants | Participants | Non-Participants |
| **COST** | Educational Expenditure | 1,248,172 | | 2,303,791 | |
| | Cost of Living | 2,738,104 | 2,738,104 | 2,738,104 | 2,738,104 |
| **BENEFITS** | Subsidy | 600,000 | - | 1,000,000 | - |
| | Current Income | 1,219,115 | 2,543,326 | 1,327,914 | 2,770,303 |
| **TOTAL** | | **-2,167,161** | **-194,778** | **-2,713,981** | **32,199** |

In Table 6, the net revenue of participants is lower than that of non-participants. The

participants who are in primary school and receive a subsidy have a negative net revenue which is -2,167,161 while that of children who are in junior-high school and receive subsidy is -2,713,981. Also, participant's net revenue will go worse since subsidy is only provided for 4 years so they need to endure some schooling periods without any subsidy.

The subsidy and current income cannot cover educational expenditure since educational expenditure is about twice the amount of subsidy, and subsidy alone is too low to cover such expenditure. Although program participants also work, their income is not as large as that of full-time working children. The amount of their income can barely cover their educational expenditure, but cannot cover the cost of living. Therefore, the null hypothesis is rejected and the study can conclude that the net revenue of participants is lower than that of non-participants.

### 4.1.1 Increasing Subsidy Scenarios

4.1 shows that the subsidy is too low to cover educational expenditures. In other words, educational expenditures were high so subsidy and current income cannot pay off that expenditure. In subsidy scenarios, the study tried to find how much the subsidy should be increased to pay off the expenditure by making scenarios when subsidy increases by 20% and 50%.

#### 4.1.1.1Increasing by 20%

When subsidy increases by 20%, children who are eligible for primary school will get IDR 72,000 per year while children who are eligible for secondary school will get IDR

12,000,000 per year.

However, still the increased subsidy does not compensate educational expenditure. Table 7 shows that the net revenues of children who participate in the program are IDR -2,047,161 and IDR - 2,513,981 each for children the age of 7-12 and 13-15. Still, participating in the program will result in negative net revenue during the schooling periods even though subsidy increased about 120% from the original subsidy.

[Table 7] Subsidy 20%_Net Revenue of Participating in PKH

[Unit: IDR]

| | | **PRIMARY SCHOOL** | | **JUNIOR-HIGH SCHOOL** | |
|---|---|---|---|---|---|
| | | Participants | Non-Participants | Participants | Non-Participants |
| **COST** | Educational Expenditure | *1,248,172* | | *2,303,791* | |
| | Cost of Living | *2,738,104* | *2,738,104* | *2,738,104* | *2,738,104* |
| **BENEFITS** | Subsidy | 720,000 | - | 1,200,000 | - |
| | Current Income | 1,219,115 | 2,543,326 | 1,327,914 | 2,770,303 |
| **TOTAL** | | **- 2,047,161** | **- 194,778** | **- 2,513,981** | **32,199** |

#### 4.1.1.2 Increasing by 50%

When subsidy increases by 50%, subsidy will increased by IDR 72,000 per year for primary school student while it is increased by IDR 15,000,000 per year for secondary school student. Unfortunately, increased subsidy still could not cover the expenditure and let children get lower net revenue than non-participants who may get IDR - 194,778 and IDR 32,199 as their net revenue. Table 8 shows children whose age is 7-12 will get IDR -

1,867,161 per year and children whose age is 13- 15 will get IDR -2,213,981 per year as a net revenue, and all figures are negative. When I calculated the subsidy untie it cover the whole expenditure, it was revealed that subsidy should be increased by 500% during the schooling periods.

[Table 8] Subsidy 50%_Net Revenue of Participating in PKH

[Unit: IDR]

| | | **PRIMARY SCHOOL** | | **JUNIOR-HIGH SCHOOL** | |
|---|---|---|---|---|---|
| | | Participants | Non-Participants | Participants | Non-Participants |
| **COST** | Educational Expenditure | *1,248,172* | | *2,303,791* | |
| | Cost of Living | *2,738,104* | *2,738,104* | *2,738,104* | *2,738,104* |
| **BENEFITS** | Subsidy | 900,000 | - | 1,500,000 | - |
| | Current Income | 1,219,115 | 2,543,326 | 1,327,914 | 2,770,303 |
| **TOTAL** | | **-1,867,161** | **-194,778** | **-2,213,981** | **32,199** |

**4.2Comparing NPVs of Beneficiaries and Non-Beneficiaries**

When comparing the NPVs of participating in the program and not participating in the program, the results were different depending on periods and the starting age of the program. Table 9 compares beneficiaries with non-beneficiaries in the short-term. After 5 years from the age of 15, the age of finishing mandatory education, the results show that all NPVs of the children who participated in the program, except for children who started the

program at 11 and 12 years old in group A, children who started the program at the age of 12 in group B, and those in group D (marked by underline), were less than NPVs of non-participants. This phenomenon is due to the expensive educational expenditure. Even though the government designed a subsidy that covered tuition, they did not consider transportation fees and other costs like uniforms, school supplies and the related expenditures. The amount of educational expenditures was about twice the amount of the children's current income, so offsetting that expenditure requires a lot of time. However, group D is different. The expected income of children with a secondary school diploma is significantly higher than the expected income of children with a primary school diploma, so this enables children in group D to have a higher NPV than children in group F.

Table 10 shows the children's NPV after 10 years from the age of 15. It still shows that most of the children who did not participate in the program will have higher NPVs than those in the treatment groups. However, the NPVs associated with children who started the program at the age of 10 in group A, children aged 12 years old in group B, and children above 10 years old in group C become higher than NPVs of non-participants. Especially, group B and group C have children who finished their primary or secondary schooling. This result supports that children who joined the program at later ages of schooling will get advantage on having higher NPVs than the counter groups (Group E and F) because they do not need to spend a lot on education until they graduate from the school.

Finally, children's NPVs after 45 years from the age of 15 show that most of the children who participated in the program will get higher NPVs than those who did not participate in the program. Regardless of program starting ages, children who finished junior-high school, representing all children in group C and D, have higher NPVs than non-participants do. This shows that the expected income for secondary school graduates is

significantly high enough to catch up non-participants' benefits even though they covered educational expenditures and cost of living. NPVs of children under 9 years old in group A and under 11 years old in group B are still lower than those of non-participants. When comparting those, however, children in group A will get more advantage of having higher NPVs than those in group B because children in group B spent more educational expenditures (they covered not only primary schooling but also secondary schooling expenditures). This phenomena proved again that finishing schooling is much important for one's benefits.

[Table 9] Comparing NPV_5 Years

[Unit: IDR]

| | Participating in Program | | | | Not Participating in Program | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | ***- 1,664,795*** | ***- 5,843,665*** | ***- 4,108,893*** | | 5,661,971 | |
| **8** | 847,338 | ***- 3,593,366*** | ***- 1,685,216*** | | 6,442,424 | |
| **9** | 3,766,738 | - 1,118,036 | 981,038 | | 7,300,922 | |
| **10** | 6,527,289 | 1,905,352 | 4,214,333 | | 8,245,270 | |
| **11** | **9,665,540** | 5,231,079 | 7,770,959 | | 9,284,053 | |
| **12** | **13,015,971** | 8,138,064 | **11,683,246** | | 10,426,714 | |
| **13** | | | | **15,235,448** | | 11,683,641 |
| **14** | | | | **19,744,372** | | 12,816,586 |
| **15** | | | | **24,704,188** | | 14,062,826 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 10] Comparing NPV_10 Years

[Unit: IDR]

| | Participating in program | | | Not participating in program | | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 4,114,981 | - ***63,890*** | 3,833,174 | | 9,726,144 | |
| **8** | 7,205,091 | 2,764,387 | 7,051,030 | | 10,913,014 | |
| **9** | 10,760,266 | 5,875,492 | 10,590,939 | | 12,218,571 | |
| **10** | **14,220,170** | 9,598,233 | **14,785,225** | | 13,654,684 | |
| **11** | **18,127,709** | 13,693,248 | **19,398,939** | | 15,234,408 | |
| **12** | **22,324,357** | **17,446,450** | **24,474,025** | | 16,972,105 | |
| **13** | | | | **29,305,304** | | 18,883,571 |
| **14** | | | | **35,221,214** | | 20,736,509 |
| **15** | | | | **41,728,714** | | 22,774,741 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 11] Comparing NPV_45 Years

[Unit: IDR]

| | Participating in program | | | Not participating in program | | |
|---|---|---|---|---|---|---|
| **Starting age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 13,245,228 | 9,066,358 | **16,379,169** | | 16,146,272 | |
| **8** | 17,248,363 | 12,807,659 | **20,851,559** | | 17,975,156 | |
| **9** | **21,807,866** | 16,923,091 | **25,771,593** | | 19,986,927 | |
| **10** | **26,372,529** | 21,750,592 | **31,483,945** | | 22,199,875 | |
| **11** | **31,495,304** | **27,060,843** | **37,767,531** | | 24,634,119 | |
| **12** | **37,028,711** | **32,150,805** | **44,679,476** | | 27,311,786 | |
| **13** | | | | **54,939,065** | | 30,257,221 |
| **14** | | | | **63,418,350** | | 33,247,524 |
| **15** | | | | **72,745,565** | | 40,660,252 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

### 4.2.1Increasing Subsidy Scenarios

Like net revenue of participating in the program, original subsidy does not allow children who participating in the program get more NPVs than children who do not participating in the program. Therefore, the study also examined how much subsidy should be increase to allow beneficiaries get high NPVs.

#### 4.2.1.1Increasing by 20%

In terms of comparing with the non-beneficiaries, the results were more significant than the base line. All NPVs of participating in the program increased by between IDR 400,000 to IDR 500,000 from the base line. Even when the subsidy increases by 20%, the starting age of children in all groups whose NPVs are higher than those of non-participants remain exactly the same. For example, increased subsidies for children who are aged 10 years old in group A in Table 9 could not allow them to have higher NPVs than non-participants.

Table 13 shows that 10 years after reaching 15 years old, subsidies did lower the starting age of children who receive higher NPVs than non-participants; however, the increase of subsides by 20% resulted in the change of NPVs from negative to positive figures for children aged 7 years old in group B.

When children work until their retirement, children starting the program at 10 years old now have higher NPVs than the counter groups due to the increased subsidies. Nevertheless, increased subsidies, 120% of base line subsidies, are not sufficient to make all participants have higher NPVs than non-beneficiaries.

[Table 12] Subsidy 20%_Comparing NPV_5 Years

[Unit: IDR]

| | Participating in program | | | Not participating in program | | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | - ***1,246,372*** | - ***5,425,243*** | - ***3,690,471*** | | 5,661,971 | |
| **8** | 1,265,761 | - ***3,174,943*** | - ***1,266,794*** | | 6,442,424 | |
| **9** | 4,185,161 | - ***699,614*** | 1,399,460 | | 7,300,922 | |
| **10** | 6,855,554 | 2,383,880 | 4,692,861 | | 8,245,270 | |
| **11** | **9,894,631** | 5,775,722 | 8,315,602 | | 9,284,053 | |
| **12** | **13,135,971** | 8,605,172 | **12,300,617** | | 10,426,714 | |
| **13** | | | | **15,782,556** | | 11,683,641 |
| **14** | | | | **20,126,190** | | 12,816,586 |
| **15** | | | | **24,904,188** | | 14,062,826 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 13] Subsidy 20%_Comparing NPV_10Years

[Unit: IDR]

| | Participating in program | | | Not participating in program | | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 4,533,403 | 354,533 | 4,251,596 | | 9,726,144 | |
| **8** | 7,623,514 | 3,182,810 | 7,469,453 | | 10,913,014 | |
| **9** | 11,178,689 | 6,293,914 | 11,009,361 | | 12,218,571 | |
| **10** | **14,548,435** | 10,076,761 | **15,263,752** | | 13,654,684 | |
| **11** | **18,356,800** | 14,237,892 | **19,943,582** | | 15,234,408 | |
| **12** | **22,444,357** | **17,913,558** | **25,091,395** | | 16,972,105 | |
| **13** | | | | **29,852,412** | | 18,883,571 |
| **14** | | | | **35,603,032** | | 20,736,509 |
| **15** | | | | **41,928,714** | | 22,774,741 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 14] Subsidy 20%_Comparing NPV_45 Years

[Unit: IDR]

| | Participating in program | | | Not participating in program | | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 13,663,650 | 9,484,780 | **16,797,591** | | 16,146,272 | |
| **8** | 17,666,785 | 13,226,082 | **21,269,981** | | 17,975,156 | |
| **9** | **22,226,288** | 17,341,513 | **26,190,016** | | 19,986,927 | |
| **10** | **26,700,794** | 22,229,120 | **31,962,472** | | 22,199,875 | |
| **11** | **31,724,395** | 27,605,486 | **38,312,174** | | 24,634,119 | |
| **12** | **37,148,711** | 32,617,912 | **45,296,846** | | 27,311,786 | |
| **13** | | | | **55,486,172** | | 30,257,221 |
| **14** | | | | **63,800,169** | | 33,247,524 |
| **15** | | | | **72,945,565** | | 40,660,252 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

#### 4.2.1.2Increasing by 50%

When subsidy increases by about 50%, NPVs are increased by about between IDR 1,100,000 and IDR 1,600,000 (about 1.01 times) from the baseline. The number of beneficiary groups which can get higher NPVs than non-beneficiaries also increased.

The Table 15, 16, and 17 show the similar results as the scenarios of remaining at the baseline and increasing subsidies by 20%. Until 5 years and 10 years, after starting to work in regular job market (15 years old), most of the NPVs of students in group A, B and C are smaller than those of children in group E and F. Only students in group D who started the program in junior-high school and finished their schooling could get higher NPVs than their counter group (group F). However, when comparing Table 11, 14, and 17 which calculated the NPVs of participants reaching the age of retirement, all children, except for 4 age groups (children aged 7 years old in group A and children aged 7, 8, and 9 years old in group B), now have higher NPVs than the control group. Children in the aforementioned 4 age groups still could not get the higher NPVs. Even though children starting the program at 10 years old in group B turned out to be having higher NPVs compared to those in the scenario of increasing subsidies by 20%, this results still verify that discontinuing schooling negatively affects children in their finance.

From the increasing subsidy scenarios, the study could identify two important findings. First, educational expenditure is really expensive. Indonesian educational expenditure for primary school is slightly higher than reduced income of children whose ages are eligible to go to primary school. In terms of junior-high school students, their educational expenditure is about twice the amount of their income. Thus, high educational expenditures make children easily drop out of school.

Second, the salary gap between people having a primary school diploma and those

having a secondary school diploma is huge, and thus, this again illustrates that continuing schooling until the completion of secondary school is important. Once children get diploma, all their negative revenues will be compensated in the near future, and they can also get higher income than others.

[Table 15] Subsidy 50%_Comparing NPV_5 Years

[Unit: IDR]

| | Participating in program | | | | Not participating in program | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | ***- 618,739*** | ***- 4,797,609*** | ***- 3,062,838*** | | 5,661,971 | |
| **8** | 1,893,394 | ***- 2,547,310*** | ***- 639,160*** | | 6,442,424 | |
| **9** | 4,812,794 | ***- 71,981*** | 2,027,093 | | 7,300,922 | |
| **10** | 7,347,950 | 3,101,671 | 5,410,652 | | 8,245,270 | |
| **11** | **10,238,267** | 6,592,687 | 9,132,566 | | 9,284,053 | |
| **12** | **13,315,971** | 9,305,833 | **13,226,672** | | 10,426,714 | |
| **13** | | | | **16,603,217** | | 11,683,641 |
| **14** | | | | **20,698,917** | | 12,816,586 |
| **15** | | | | **25,204,188** | | 14,062,826 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 16] Subsidy 50%_Comparing NPV_10 Years

[Unit: IDR]

| | Participating in program | | | | Not participating in program | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 5,161,036 | 982,166 | 4,879,229 | | 9,726,144 | |
| **8** | 8,251,147 | 3,810,443 | 8,097,086 | | 10,913,014 | |
| **9** | 11,806,322 | 6,921,548 | 11,636,994 | | 12,218,571 | |
| **10** | **15,040,831** | 10,794,552 | **15,981,543** | | 13,654,684 | |
| **11** | **18,700,436** | 15,054,856 | **20,760,547** | | 15,234,408 | |
| **12** | **22,624,357** | **18,614,219** | **26,017,451** | | 16,972,105 | |
| **13** | | | | **30,673,073** | | 18,883,571 |
| **14** | | | | **36,175,759** | | 20,736,509 |
| **15** | | | | **42,228,714** | | 22,774,741 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

[Table 17] Subsidy 50%_Comparing NPV_45 Years

[Unit: IDR]

| | Participating in program | | | | Not participating in program | |
|---|---|---|---|---|---|---|
| **Starting Age** | Group A | Group B | Group C | Group D | Group E | Group F |
| **7** | 14,291,284 | 10,112,413 | **17,425,225** | | 16,146,272 | |
| **8** | **18,294,419** | 13,853,715 | **21,897,615** | | 17,975,156 | |
| **9** | **22,853,921** | 17,969,147 | **26,817,649** | | 19,986,927 | |
| **10** | **27,193,190** | **22,946,911** | **32,680,263** | | 22,199,875 | |
| **11** | **32,068,031** | **28,422,451** | **39,129,139** | | 24,634,119 | |
| **12** | **37,328,711** | **33,318,573** | **46,222,902** | | 27,311,786 | |
| **13** | | | | **56,306,833** | | 30,257,221 |
| **14** | | | | **64,372,896** | | 33,247,524 |
| **15** | | | | **73,245,565** | | 40,660,252 |

*Note: Underlined figures indicate that NPV of participating children will be greater than that of non-participating children

# 5. Conclusion

This study attempted to discover the main reason why children do not participate in the conditional cash transfer program (PKH), and found that high educational expenditures and low subsidies drive children to work instead of attending school. The educational expenditures of primary and junior-high school in Indonesia are about 2 times higher than program subsidies. Since most children work because of their low household income, they cannot afford the high costs of education. When children, especially children from the poorest households, continue to receive schooling, they may reduce their working hours instead of working full-time. Therefore, net revenues during the schooling periods are always negative, even though those losses can be recovered after they enter the job market. Under this situation, the cost of studying is, in effect, doubled because not only do they spend money on education they also forego earnings. This means that when children's households cannot support this educational expenditure, or they require more earnings from their children, participating in the program is not a reasonable option for them. Therefore, the Indonesian government needs to increase the subsidy about 200% from the current subsidy.

Moreover, we intuitively think that earnings tend to be different based on educational achievements, so enrollment in school is always expected to give highly educated people significantly more value than less-educated ones . However, finishing school is more important than just enrollment in school because some results show that children who start the program at an early age (participating at an early age means more educational expenditure is necessary) but do not finish their schooling get lower NPVs (i.e., group B) than those who do not attend school. Group A consisting of children who started the program when they were

of primary school age and achieved primary school diploma, Group C composed of children who studied until getting a junior-high school diploma, and Group D constituted by children who started the program when they entered junior-high school and successfully got a degree, illustrated that finishing their schooling allowed them to achieve higher NPVs than those who just gave up schooling. However, children in group B—students at ages eligible for primary school who finished their primary education but dropped out of schooling after their enrollment in secondary school—could not get higher NPVs compared to the other groups. Only children who joined the program when they are 11 and 12 years old in group B could have higher NPVs than non-beneficiaries. Once children finish secondary schooling, how much they spent on education is not a problem. Hence, the Indonesian government should encourage children to finish schooling to enable beneficiaries to get higher NPVs.

The fundamental reason for this problem is that poor households cannot afford to live without children's earnings. In addition, even though many parents are aware that the value of future earnings from educated children would be higher than the current earnings, they cannot support their children's education with their current financial capacity; hence, they let their children work.

Pertaining to eradicating child labor through the current CCT program, Program Keluarga Harapan, the Indonesian government should change its approach. Increasing subsidies until they meet educational expenditures is unrealistic. Instead, the government should redesign the program by not only increasing the subsidies by some amount, but also combining them with the current or new educational support for beneficiaries to reduce their economic burden.

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