Does Conditional Cash Transfer Have a Lasting Impact?: Evidence from Indonesia

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Abstract

This study aims to estimate the impact of program cessation on the behavior of Program Keluarga Harapan (PKH) beneficiaries. We utilize the Propensity Score Matching (PSM) and Differencein-Differences (DID) models to overcome potential bias in the estimation results. We use household longitudinal data from the PKH implementation pilot study. The results show that program cessation has a significant positive impact on the share of expenditure on food and the probability of children not attending school, as well as reducing the share of expenditure on education. On the other hand, program cessation has no impact on the utilization of health services, the share of expenditure on health, and the share of expenditure on milk and eggs. These findings indicate that the impact of PKH on behavior related to health tends to continue, while for behavior related to education it does not.

Keywords: Intergenerational Transfer, Transfers, Welfare, Poverty, Health, Education

JEL Classification: D150, I380

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I. Introduction

I.1. Background

Program Keluarga Harapan (PKH, Family Hope Program) is a conditional cash transfer program implemented in Indonesia since late 2007. PKH aims to improve the welfare of the poor and change their behavior in accessing education and health services. PKH beneficiaries are determined based on the Proxy Means Test (PMT) score and three additional criteria: i) existing pregnant or breastfeeding women, ii) existing children aged zero to six years, and/or iii) children aged seven to 18 years who are attending school or have not received nine years of primary education. Thus, PKH beneficiaries are the 20 percent of the population with the lowest income who meet at least one of the three additional criteria.

PKH is distributed quarterly to beneficiaries through the post office nearest the beneficiaries' residence. The amount of PKH for each family is relatively varied, depending on the presence of pregnant women, the number of pre-school-age children, and the number of school-age children in the family. On average, assistance ranges from USD 40 to USD 147 per year (Cahyadi et al., 2020). PKH does not regulate the allocation of cash transfer money; thus, beneficiaries can use it for their desired needs.

Besides meeting the beneficiary criteria, beneficiaries are obliged to carry out several activities if they have status as PKH beneficiaries. For example, obligations in the health sector include attending and being registered at the nearest health facility, obstetric examinations for pregnant women, and providing nutrition, immunization, and body weights for children under five / preschool children. Then, in the education sector, the obligations include registering family members aged seven to 15 years at elementary and secondary school levels, ensuring attendance at school is at least 85 percent, and registering family members aged 16 to 18 years at the appropriate school level if they have not completed nine years of basic education (Alatas, 2011). PKH organizers provide assistants or companions who provide information and input to beneficiaries about program mechanisms, especially regarding the obligations that must be fulfilled. The companion is also responsible for verifying the fulfillment of obligations by the beneficiaries. If a beneficiary does not meet the requirements, the assistant will give warnings in stages, and the final consequence if the beneficiary does not quickly fulfill the obligations is that the assistance will stop being given.

Several impact evaluation studies have shown that PKH has had a positive impact in the short and medium term. Within two years, the program was able to increase total household expenditure, expenditure on food, and expenditure on nutritious food (Alatas, 2011; Kusuma et al., 2016; Kusuma, Thabrany, et al., 2017). Meanwhile,

within six years, the program was able to increase school participation at secondary school level, school attendance rates, especially at primary school level, utilization of formal health services, and health checks for pregnant women, and reduce the probability of children experiencing stunting (Cahyadi et al., 2020). In the medium term, namely six and seven years after PKH was first launched, it was found that the program increased the consumption of iron supplements by pregnant women and reduced the probability of children experiencing stunting (Cahyadi et al., 2020; Maizunati, 2019). However, no significant impact was found on the probability of children experiencing malnutrition (Cahyadi, et al., 2020).

In general, the studies above show that PKH is proven to have short-term and medium-term impacts. The impact of PKH is relatively visible in outcomes directly related to the conditionality of PKH administration, such as visits and utilization of health facility services and participation in schools. Meanwhile, outcomes associated with the quality of human capital in the long term, such as health and cognitive quality, are relatively limited. Cahyadi et al. (2020) only found that PKH had an impact on reducing the probability of children becoming stunted so that it was estimated that children would experience good health in adulthood. In contrast, the same results did not appear for the possibility of children experiencing malnutrition.

According to Aizawa (2020), the effect of PKH on the probability of children experiencing stunting results from a change in behavior rather than a direct impact in the form of additional money from PKH. Behavior change is triggered by interaction with and knowledge transfer from health service providers to mothers, which arises because of the obligation to visit health facilities. Meanwhile, the impact on malnutrition is relatively low because there is no mechanism directly related to child nutrition in the PKH program.

The findings on the impact of PKH and changes in behavior described by Aizawa (2020) raise suspicions that the effects of the PKH program are limited to outcomes that are conditional on the provision of PKH because of the obligation to carry out certain activities in order to receive assistance. The attachment of this impact to conditionality creates the potential that PKH will not have a long-term sustainable impact on beneficiaries.

PKH is developing relatively quickly (Nugroho et al., 2021). This program is considered the most effective poverty alleviation program because it can have a significant positive impact, making it a priority for government funding allocations (Hill, 2021). The average PKH financing allocation is 0.6 percent of the total Gross Domestic Product (GDP) and, since 2015, has tended to double, so it is relatively the largest compared to allocations for other social programs (Hill, 2021). This increase in budget allocation is in line with the rise in the number of beneficiaries (World Bank, 2012).

The large budget allocation for social assistance, especially for PKH, shows the Government of Indonesia's (GoI) commitment to reducing poverty. However, the Government of Indonesia still has limited fiscal capacity. This is demonstrated by the implementation of budget deficit policies and the ratio of debt to GDP, which has tended to increase since 2012 (Ministry of Finance, 2023). The existence of these limitations forces PKH to apply a program cessation scheme, namely certain conditions that cause beneficiaries to stop receiving assistance. In other words, this program is not permanently given to the poor (World Bank, 2012; Nazara and Rahayu, 2019; Syamsulhakim and Nurzanty, 2020).

The program cessation scheme stipulates three things that allow beneficiaries to stop receiving PKH. First, if the beneficiaries do not meet the PKH criteria or requirements. Second, if beneficiaries are no longer poor. Third, if beneficiaries have reached the deadline of five years after first receiving assistance (Nazara and Rahayu, 2019).

The existence of limitations on the government's fiscal capacity and the implementation of the program cessation scheme in PKH raises the urgency of identifying the sustainability of PKH's impact and its relation to poverty alleviation efforts. This is because program financing is efficient if it is able to provide an optimal and sustainable impact in the long term, even after the program has stopped being administered. Therefore, it is necessary to evaluate the sustainability of PKH's impact by looking at the impact of program cessation on the behavior of PKH beneficiaries.

One indicator of program impact sustainability is the change in beneficiary behavior upon assistance cessation (Wydick, 2018; Molyneux, Jones, and Samuels, 2016). Behavioral shifts can stem from various factors, including economic changes, knowledge, perceptions, and aspirations (Baird, McIntosh, and Ozler, 2019; Gaarder, Glassman, and Todd, 2010; Molyneux, Jones, and Samuels, 2016; Patel-Campillo and García, 2022).

Economic shifts, particularly increases in productive assets, enhance household economic well-being and drive behavior modification (Baird et al., 2019). Theoretical studies underscore the pivotal role of individual knowledge, perceptions, and aspirations in economic development and poverty alleviation efforts (Dalton, Ghosal, and Mani, 2016; Genicot and Ray, 2017; Lybbert and Wydick, 2018a, 2018b). This is substantiated by empirical and experimental research examining the link between aspirations, poverty traps, and inequality (Beaman, Duflo, Pande, and Topalova, 2012; Pasquier-doumer and Risso, 2015; Wydick, Glewwe, and Rutledge, 2013).

For instance, interactions with health workers in formal health facilities and health education programs within Conditional Cash Transfer (CCT) initiatives can enhance children's consumption of healthy food and nutritional quality (Chiapa, Luis, and Prina, 2012; Gaarder et al., 2010). Thus, the CCT program not only impacts its core obligations but also fosters significant future behavioral changes.

In the realm of education, Wydick et al. (2013) conducted a study employing natural experiments, revealing that changes in children's aspirations underlie the impact of educational assistance programs on educational outcomes. Exposure to information through coaching programs as a supplement to financial assistance programs plays a pivotal role in shaping aspirations. This underscores the importance of altering aspirations to magnify the positive impact of social assistance programs.

I.2. Research Purposes

PKH is a poverty alleviation program with a relatively large funding allocation (Hill, 2021). This is because PKH is considered an effective poverty alleviation program (Nugroho, et al., 2021). Studies show that PKH has positive impacts in the short and medium term, such as increasing household expenditure, consumption of nutritious food, school participation, and utilization of formal health services (Alatas, 2011; Kusuma, et al., 2016; Kusuma, McConnell, et al., 2017; Kusuma, Thabrany, et al., 2017; Hadna and Kartika, 2017; Cahyadi, et al., 2020). On the other hand, the fiscal capacity of the Government of Indonesia is relatively limited. Therefore, PKH implements a program cessation scheme that allows beneficiaries to stop receiving assistance if certain conditions are met. Based on this, it is necessary to conduct research on the impact of program cessation on the behavior of PKH beneficiaries to identify the sustainability of the impact of PKH (Attanasio, Oppedisano, and Vera-Hernandez, 2015; Bastagli, 2009; Robles, Rubio, and Stampini, 2017). This is because the continuation of the impact of PKH after the program has ended has played an important role in increasing the efficiency of social program financing and optimizing the benefits of PKH in poverty alleviation efforts in Indonesia.

Nevertheless, there are few studies investigating the lasting effects of PKH after its cessation for beneficiaries. Research indicates that poverty alleviation programs can have enduring impacts over the long term, even after they cease, provided they effectively induce behavioral changes (Molyneux et al., 2016; Wydick, 2018; Beaman et al., 2012; Dalton et al., 2016; Genicot and Ray, 2017; Jensen, 2010; Pasquier-doumer and Risso, 2015; Wydick et al., 2013). This prompts consideration of the potential for PKH to create a sustainable impact under two main circumstances. Firstly, if the program's discontinuation positively influences the behavior of its beneficiaries, this indicates that PKH graduates exhibit more favorable behavior than active beneficiaries. Secondly, if the cessation of the program does not diminish the positive behaviors that PKH beneficiaries cultivated while actively participating in the program.

Based on the above, this study will discuss two matters. First, identifying the impact of program cessation on school participation, utilization of formal health services, and consumption patterns of PKH beneficiaries. Second, a discussion regarding the factors and design of the CCT program that can encourage the long-term sustainability of the PKH program's impact. Thus, this research can provide two contributions within the scope of the evaluation of poverty alleviation programs in Indonesia. First, an empirical analysis that identifies the impact of program cessation on PKH beneficiaries' behavior. Second, a discussion regarding the factors and design of the CCT program that can encourage consistent behavior change in the long term. These two aspects can be a reference for developing PKH designs to optimize the program's impact in achieving poverty alleviation efforts in Indonesia.

The behavior of PKH beneficiaries estimated in this study is the probability of children not attending school, the number of visits to formal health facilities, and household consumption patterns, which include the share of expenditure on food, the share of expenditure on protein foods (milk and eggs), the share of expenditure on education, and share of expenses for health. This outcome is relevant to PKH's long-term target, which is to improve the quality of human capital through increased investment in human capital for children from poor families.

We identified the causal impact of program cessation on outcomes using a combination of two quasiexperimental impact evaluation methods, namely Propensity Score Matching (PSM) and Difference-in-Differences (DID). PSM is useful for identifying samples that have similar characteristics to prevent selection bias problems. Then, the DID method was used to estimate the impact of the gradient on the outcome. Based on the DID model, we identified the treatment group sample as households that had graduated and the control group sample as households that were still receiving PKH. We use two time points, where the year before program cessation is 2009 and the year after program cessation is 2013.

II. Data and Methodology

II.1. Data

The data used in this study came from a survey that was part of the PKH trial evaluation activity (Alatas, 2011; Cahyadi, et al., 2020). PKH trials were designed using randomized control trials, and data were collected in three periods, namely 2007 (before the program), 2009 (two years after the program), and 2013 (six years after the program). In this study, the samples used were households with children aged six to 20 years who were PKH beneficiaries and were consistently surveyed in 2007, 2009, and 2013. Three stages were carried out to collect these samples from the PKH evaluation trial dataset of Cahyadi et al. (2020). First, taking a sample of households whose data is available longitudinally for the three survey periods. Second, taking samples that are PKH beneficiaries, as well as identifying and creating categories for the treatment group for those who have not received PKH in 2013 and the control group for others. Third, using the Propensity Score Matching technique, taking similar samples based on the covariates used. These three steps resulted in a sample of 3,559 households, consisting of 592 households in the treatment group (16.62 percent) and 2,967 households in the control group (83.37 percent).

II.2. Methodology

This study aims to estimate the impact of PKH program cessation on the behavior of PKH beneficiaries. According to Gertler, Martinez, Premand, et al. (2011: 33-38), estimating the impact of a program, intervention, or event on the outcome is the same as estimating the causal relationship between the intervention and the outcome. The impact evaluation method can overcome the selection bias problem. In this study, selection bias may arise because program cessations are determined based on PKH beneficiaries' compliance in carrying out their obligations, which include school participation and visits to health care facilities; well-being as measured by expenditure; and can also be based on a personal request by PKH beneficiaries. This problem can be overcome by forming a control group with similar characteristics to the treatment group. Therefore, this study uses Propensity Score Matching to extract samples that have similar characteristics based on several covariates that are used in PKH implementation to determine program cessation status. The covariates used are the age of the head of the household, the gender of the head of the household works in the agricultural sector, the number of household members, and ownership of assets such as television, satellite dish, refrigerator, motorcycle, car, goats and cows (Alatas, 2011).

The impact of program cessation on various outcomes is assessed using the Difference-in-Differences (DID) methodology. For this approach to yield an accurate estimate, it relies on a crucial assumption: the Parallel Trend Assumption. This assumption implies that, in the absence of the program, intervention, or event, the trajectory of changes in outcomes for both the treatment and control groups would be identical. While this assumption is inherently unverifiable, it can be inferred by examining the outcome trends in the period preceding the program, intervention, or event. Under the Parallel Trend Assumption, the exact match of characteristics between the treatment and control groups prior to the program, intervention, or event is not a critical factor (Gertler, Martinez, Premand, et al., 2011: 96-99).

The outcomes estimated in this study are the probability of children not going to school, the number of visits to health care facilities, the share of expenditure on food to total expenditure, the share of expenditure on milk and eggs to total expenditure, the share of expenditure on education to total expenditure, and the share of expenditure on health to total expenditure. The treatment group is households that graduated between 2009 and 2013, while the control

group is households that were still active PKH beneficiaries until 2013. For the before and after periods, we use 2009 (before) and 2013 (after).

The regression equation for each is as follows:

$$\begin{aligned} &\text{Unschool}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment} \times \text{Period}_{t}) + X'_{i} + C'_{i} + \varepsilon_{it} \end{aligned} (1) \\ &\text{KesVis}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment}_{i} \times \text{Period}_{t}) + X'_{i} + C'_{i} + \varepsilon_{it} \end{aligned} (2) \\ &\text{SFood}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment}_{i} \times \text{Period}_{t}) + X'_{i} + \varepsilon_{it} \end{aligned} (3) \\ &\text{SMilkEgg}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment}_{i} \times \text{Period}_{t}) + X'_{i} + \varepsilon_{it} \end{aligned} (4) \\ &\text{SEduc}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment} \times \text{Period}_{t}) + X'_{i} + \varepsilon_{it} \end{aligned} (5) \\ &\text{SHealth}_{it} = \alpha + \gamma \text{Treatment}_{i} + \lambda \text{Period}_{t} + \delta(\text{Treatment}_{i} \times \text{Period}_{t}) + X'_{i} + \varepsilon_{it} \end{aligned} (6)$$

Information:

Unschool _{it}	: Status of children not attending school
KesVis _{it}	: Number of visits/outpatient visits to health care facilities
SFood _{it}	: Share of expenditure on food relative to total expenditure
SMilkEgg _{it}	: Share of expenditure on milk and eggs relative to total expenditure
SEduc _{it}	: Share of expenditure on education relative to total expenditure
SHealth _{it}	: Share of expenditure on health against total expenditure
Graduasi _i	: Dummy variable in the treatment /program cessation group
Period _t	: Dummy variable period after the event
$Graduasi_i \times Period_t$: Variable dummy cross difference in the treatment / program cessation group and
	period after the event
X'i	: The household control variable is the gender of the head of the household (HHWomen), age of head of household (HHAge), working status the head of the household (HHWorking), the employment sector of the head of the household (HHAgriculture), number of household members (NumHH), and household expenditure per capita (Exppc)
C'i	: Community control variables, namely the number of elementary schools (NumPri),
	number of junior high schools (NumSec), and number of doctors practicing in
	the sub-district (NumDoc)

III. Results and Discussion

III.1. Results

The identification of the Parallel Trend Assumptions for several outcomes, namely household expenditure, share of expenditure on food, and share of expenditure on health, shows that the trend of changes in the outcome of the treatment group and the control group is relatively the same (see Graph 3.1). Thus, the control group used in this study can be said to be a good counterfactual or comparison. Then, Table 4.1 contains statistical information on the sample data, specifically the mean value and standard deviation for each household characteristic variable between the sample in the treatment group and the control group in 2009. The total sample size for this study is 3,559 households, consisting of 592 households in the treatment group (16.63 percent) and 2,967 households in the control group (83.37 percent). The table shows that the two groups have similar characteristics. This is indicated by relatively similar average values.





In Table 4.1, it can be seen that the sample households have the characteristics of the poor, namely the majority of household heads are men who are working and of productive age with a relatively low level of education where the highest level of education completed is elementary school. The majority have houses where the average

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number of household members is five people. The sample households are Very Poor Household (*Rumah Tangga Sangat Miskin*/RTSM) who have an average total monthly household expenditure per capita of Rp. 227,463 and Rp. 232,832 and who do not have clean drinking water and healthy sanitation.

	Treatment		Control		
Variable	Means	Standard Deviation	Means	Standard Deviation	Diff
Share food expenses	68,556	12,677	69,717	12,073	1,160 **
Share expenditure on nutritious food	0.611	0.732	1.322	3,357	0.039
Share of education expenditure	4,600	6,194	4,845	5,966	0.244
Share health expenditure	1.518	4,137	1.322	3,357	-0.195
Total monthly household expenditure per capita	232,832	110,634	227,463	108,704	-64433
Female Head of Household (=1)	0.177	0.382	0.094	0.292	-0.082 ***
Working Head of Household (=1)	0.866	0.340	0.919	0.272	0.052 ***
Age of Head of Household	48,82	10.75	42,74	9.52	-4.76 ***
Household Head Education	0.822	1,060	1.128	1,184	-0.641 ***
Number of Family Members	5,13	1,730	5.50	1,817	0.376 ***
Home ownership (=1)	0.905	0.292	0.883	0.321	-0.030 *
Source of clean drinking water (=1)	0.125	0.330	0.204	0.403	0.079 ***
Has a toilet (=1)	0.395	0.489	0.404	0.490	0.008

Table 4.1. Data Descriptive Statistics for 2009

Data source: Cahyadi, et al. (2020)

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels; The baseline data in this study is household data in 2009, when PKH beneficiaries received PKH assistance.

Impact of Program Cessation on the Probability of Children Out of School

One of the conditions required for PKH beneficiaries is to send children aged six to 18 years to the appropriate level of education, as well as children aged 16 to 18 years who have not completed basic education. With these conditions, PKH was able to increase the attendance rate in primary school and school participation, especially at the secondary school level (Alatas, 2011; Cahyadi, et al., 2020). This shows that PKH has a positive impact on the probability of children going to school and the school attendance rate.

On the other hand, this study estimates the impact of program cessation on the probability of children dropping out of school. The estimation results in Table 4.2, columns (1) to (4) show that children in the treatment group have a relatively higher probability of not going to school than children in the control group, and in the post-program cessation period, the probability of not going to school is relatively higher than in the period before program cessation. Further, the variable Treatment×Period shows that the change in the probability level of children not attending school in the treatment group is 13 percent higher relative to children in the control group.

Table 4.2. Impact of Program cessation on the Probability of Children Out of School

	(1)	(2)	(3)	(4)
	Unschool	Unschool	Unschool	Unschool
Intercepts	0.097 ***	-0.008	-0.051 *	-0.114 ***
	(0.005)	(0.025)	(0.028)	(0.029)
Treatment	0.077 ***	0.067 ***	0.075 ****	0.069 ***
	(0.015)	(0.015)	(0.015)	(0.015)
Period	0.115 ***	0.105 ***	0.110 ***	0.113 ***
	(0.005)	(0.006)	(0.007)	(0.007)
	0.105***	0.100 ***	0.100 ***	0 100 ***
Treatment×Period	0.135	0.138	0.138	0.139
	(0.016)	(0.016)	(0.016)	(0.016)
HH Gandar (Famala-1)		0.007	0.012	0.010
The Gender (Fender 1)		(0.012)	(0.012)	(0.012)
		(0.012)	(0.012)	(0.012)
HH Age		0.002 ***	0.002 ****	0.001 ***
0		(0.000)	(0.000)	(0.000)
HH Employment Status		-0.001	-0.002	0.004
(Working=1)				
		(0.012)	(0.012)	(0.012)
HH Working Sector		-0.011	-0.009	0.004
(Agri=1)				
		(0.007)	(0.007)	(0.007)
HH size			0.012 ***	0.011 ***
			(0.002)	(0.002)
Expenditure per capita			-3.8e-09	-4.02e-09
			(1.97e-09)	(1.97e-09)
Num of Primary School				0.003 ***
Nulli of Frinary School				(0.000)
				(0.000)
Num of Secondary School				0.000
				(0.001)
Ν	10260	10260	10260	10260

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels; In brackets is the standard error

Impact of Program Cessation on Utilization of Formal Health Service Facilities

Utilization of formal health services as measured by the number of visits by household members to formal health services can reflect household knowledge and preferences in accessing health services at formal health facilities. This is one of the spillover effects of PKH, because PKH encourages pregnant women and children under five to

regularly check their health at formal health services. The introduction of formal health services through services for pregnant women and children under five is expected to shape the behavior of poor households in accessing formal health services. As found in Alatas's study (2011), PKH had an impact on increasing visits to formal health services by family members of PKH beneficiaries, although it was relatively small, namely 0.5 percent for public health services and 0.2 percent for private health services.

Table 4.3 shows the results of estimating the impact of program cessation on the utilization of formal health services. In columns (1) to (4), it can be seen that the treatment group has a relatively lower number of visits to healthcare facilities than the control group. From an intertemporal perspective, the number of visits to healthcare facilities in 2013 was relatively lower than in 2009. Meanwhile, the Treatment×Period variable had no significant impact on the number of visits by PKH beneficiaries to formal health services. This means that there is no significant difference in changes in visits to formal health services of the treatment group and the control group. This indicates that program cessation does not cause significant changes in the behavior of PKH beneficiaries in visiting formal health services, so the behavior that has been formed while being PKH beneficiaries is still being carried out.

Impact of Program Cessation on Household Consumption Patterns

The household consumption pattern as measured using a share for each type of expenditure can reflect a household's priority in expenditure of the money it has. PKH is assistance provided in cash to beneficiaries and does not apply conditions for using the money. This shows that PKH beneficiaries can decide for themselves how to use the additional money they get. As a program that seeks to encourage investment in health and education, PKH is an incentive to change beneficiaries' consumption patterns, especially in the allocation of health and education expenditure.

Alatas (2011) found that PKH increased per capita monthly expenditure by 10 percent. The additional income is used to consume high-protein foods and for health costs. In the study, it was found that PKH beneficiaries experienced an increase in expenditure on food, health, and the share of expenditure on protein foods, especially milk and eggs. On the other hand, expenditure on education remained relatively unchanged.

	(1)	(2)	(3)	(4)
	KesVis	KesVis	KesVis	KesVis
Intercepts	1,045 ***	1,405 ***	0.725 ***	0.738 ***
	(0.020)	(0.081)	(0.091)	(0.092)
Treatment	-0.290 ***	-0.267 ***	-0.215 ***	-0.213 ***
	(0.049)	(0.050)	(0.049)	(0.049)
Period	-0.227 ***	-0.211 ***	-0.315 ***	-0.319 ***
	(0.027)	(0.029)	(0.031)	(0.031)
Treatment×Period	0.076	0.074	0.070	0.069
	(0.067)	(0.070)	(0.068)	(0.068)

Table 4.3. Impact of Program Cessation on Utilization of Formal Health Services

HH Conder (Female=1)		0 125 **	0.048	0.040
nn Gender (remaie-1)		-0.133 (0.042)	-0.048 (0.041)	(0.042)
HH Age		-0.004 **	-0.007 ***	-0.007 ****
		(0.001)	(0.001)	(0.001)
HH Employment Status (Working=1)		-0.176 ***	-0.151 **	-0.152 **
		(0.048)	(0.047)	(0.047)
HH Working Sector (Agri=1)		-0.003	0.036	0.028
		(-0.027)	(0.027)	(0.027)
HH size			0.116 ***	0.118 ***
			(0.007)	(0.007)
Expenditure per capita			4.8e-08 ***	4.92e-08 ***
			(6.98e-09)	(7.01e-09)
Number of Doctors				-0.002 * (0.001)
N	7118	7118	7118	7118

Note: *, **, and *** signs indicate significance at the 10%, 5%, and 1% levels; In brackets is the standard error

From the estimation results in Table 4.4, we can see the impact of program cessation on household consumption patterns. In columns (1) to (2), it can be seen that the treatment group has a lower share of expenditure on food relative to the control group. However, column (3) shows that there is no significant difference in the share of food expenditure between the treatment group and the control group. Further, from an intertemporal perspective, the share of expenditure on food in 2013 was relatively lower than in 2009. Meanwhile, the variable Treatment×Period had a positive and significant impact on the share of expenditure on food by 1.91 percentage points relative to the control group. In other words, the treatment group allocates relatively more money for food than the control group. This indicates that program cessation encourages positive behavioral changes in food consumption. Referring to several studies, the results of this study are relatively the same as the impact of CCT programs in other countries which have also been shown to increase food consumption, where the increase does not decrease when there is an increase in total expenditure (Maluccio 2005; Attanasio, Battistin, and Mesnard 2009; Angelucci and Attanasio, 2009; Rubalcava, Teruel, and Thomas 2009; Gitter and Caldés 2010). The findings in this study also show the continued positive impact of PKH on increased expenditure on food found by Alatas (2011).

Then, in Table 4.4, columns (4) to (6), it can be seen that there is no significant difference in the share of expenditure on milk and eggs between the treatment group and control group, even between 2013 and 2009.

Meanwhile, the Treatment×Period variable does not have a significant impact on the share of expenditure on milk and eggs. That is, there is no significant difference in changes in the share of expenditure on milk and eggs between the treatment group and the control group. This indicates that program cessation did not cause a significant change in the behavior of PKH beneficiaries in allocating expenditure on protein foods; the behavior that was carried out while they were PKH beneficiaries was still being carried out. These findings indicate that PKH beneficiaries have the potential to maintain the behavior of consuming protein foods such as milk and eggs. This is also found in studies on the sustainability of CCT impacts in Mexico, Colombia, and Nicaragua (Hoddinott, et al., 2000; Hoddinott and Skoufias, 2004; Attanasio, et al., 2005; Maluccio and Flores, 2005).

Furthermore, Table 4.5 shows the results of estimating the impact of program cessation on the share of expenditure on education and health. In columns (1) to (3), it can be seen that there is no significant difference in expenditure on education between the treatment group and control group. Next, from an intertemporal perspective, it shows that expenditure on education in 2013 was relatively higher than in 2009. Meanwhile, the variable Treatment×Period had a negative and significant impact on the share of expenditure on education. This means that the treatment group has a lower change in the share of expenditure on education by 1.69 percentage points relative to the control group. This indicates that program cessation encourages negative behavior in allocating expenditure on education. In other words, graduated PKH beneficiaries tend to reduce expenditure allocations for education.

Then, in columns (4) to (6), it can be seen from the estimation results that there is no significant difference in the share of expenditure on health between the treatment and control groups, even between 2013 and 2009. Meanwhile, the Treatment×Period variable has no significant impact on changes in the share of expenditure on health. This means that there is no significant difference in the share of expenditure on health between the treatment and control groups. This indicates that program cessation does not cause a significant change in the behavior of PKH beneficiaries in allocating expenditure on health.

III.2. Discussion

The findings in Table 4.2 provide insight into the effects of program cessation, revealing a noticeable trend: the likelihood of children discontinuing their school attendance tends to increase. This observation indirectly suggests that the influence of PKH on school participation is intricately linked to the conditions or obligations imposed on PKH beneficiaries. Consequently, these results suggest that PKH may not exert a lasting impact on children's education, particularly in terms of school attendance. Evidently, when PKH assistance ends, there is a relative uptick in the probability of children no longer attending school. This outcome aligns with research by Ham and Michelson (2018), which found that a similar program, PRAF in Honduras, focused on providing vouchers to encourage school participation, did not exhibit a sustained impact over the long term. Numerous studies in the realm of children's educational engagement, including factors such as knowledge, aspirations, and parental perceptions regarding investments in education.

Referring to Alatas (2011), who found that PKH could increase visits to formal health services, and the results of this study which showed that program cessation had no impact on changes in the behavior of PKH beneficiaries,

this indicates that the impact of PKH on increasing visits to formal health services continued. Thus, PKH has the potential to increase poor families' access to health services in the long term. However, this can still be improved, considering that the increase in visits to formal health services by PKH beneficiaries is relatively small (Alatas, 2011).

Associated with the study of Alatas (2011) which found that PKH had no impact on expenditure on education, program cessation actually made PKH beneficiaries reduce the allocation of expenditure on education. This indicates that the allocation of funds for education has not been a priority for PKH beneficiaries or for beneficiaries who stopped receiving PKH. The study suggests several things that cause poor households to tend not to invest in education: financial limitations, parental lack of knowledge about the importance of children's education, and the perception that education is an expense whose benefits are uncertain and can only be obtained in the long term or in the future (Jensen, 2010; Benhassine, et al., 2015; Barrera-Osorio, et al., 2019; Chiapa, et al., 2012; García, et al., 2019).

Still, if we look at Alatas (2011), PKH has a significant impact on increasing expenditure on health. Continuing from the findings of this study, there was no significant change in behavior in this regard. So, it can be said that PKH has the potential to encourage poor families' access to formal health services on an ongoing basis. However, this still needs to be improved, considering that the positive impact of PKH on increasing expenditure on health is relatively small (Alatas, 2011).

	(1)	(2)	(3)	(4)	(5)	(6)
	SFood	SFood	SFood	SMilk Egg	SMilk Egg	SMilk Egg
Intercepts	69,71 ***	65,83 ***	69,12 ***	0.650 ***	0.826 ****	0.604 ***
	(0.234)	(0.942)	(1,066)	(0.014)	(0.059)	(0.068)
Treatment	-1,160 **	-1,142 **	-0.912	-0.039	-0.041	-0.029
	(0.575)	(0.578)	(0.571)	(0.036)	(0.036)	(0.036)
Period	-4,240 ***	-4.148 ***	-2.151 ****	-0.029	-0.038 *	-0.087
	(0.332)	(0.335)	(0.364)	(0.021)	(0.021)	(0.023)
Treatment×Period	1.617 **	1,709 **	1.914 **	0.083	0.079	0.076
	(0.814)	(0.810)	(0.798)	(0.051)	(0.051)	(0051)
HH Gender (Female=1)		-1.113 **	-1.277 **		0.033	0.059 *
		(0.486)	(0.483)		(0.030)	(0.031)
HH Age		0.035 **	0.013		-0.001	-0.001 *
		(0.015)	(0.016)		(0.001)	(0.001)
HH Employment Status		1,095 **	1,393 **		-0.048	-0.043
(Working=1)		, 	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(0.0 .	
		(0.556)	(0.548)		(0.035)	(0.035)
HH Working Sector		2,278 ***	2,159 ***		-0.141 ***	-0.128 ****
(Agri=1)		(0.319)	(0.316)		(0.020)	(0.020)
		((((((((((((((((((((((((((((((((((((((((0.010)		(0.020)	(0.020)
HH size			0.096			0.031 ***
			(0.083)			(0.005)
Expenditure per capita			-1.09e-06 ***			2.44e-08 ***
			(8.10e-08)			(5.20e-09)
N	7118	7118	7118	7118	7118	7118

Table 4.4. Impact of Program Cessation on Household Food Consumption Patterns

Note: *, **, and *** signs indicate significance at the 10%, 5%, and 1% levels; In brackets is the standard error

	(1)	(2)	(3)	(4)	(5)	(6)
	SEduc	SEduc	SEduc	SHealth	SHealth	SHealth
Intercepts	4,845 *** (0.120)	5,051 *** (0.485)	4,742 *** (0.557)	1,323 *** (0.065)	1,957 *** (0.265)	0.416 (0.300)
Treatment	-0.244 (0.295)	-0.310 (0.297)	-0.298 (0.298)	0.195 (0.161)	0.173 (0.162)	0.173 (0.160)
Period	1,134 *** (0.170)	1,068 *** (0.172)	0.982 *** (0.190)	-0.170 * (0.092)	-0.175 * (0.094)	-0.779 *** (0.102)
Treatment×Period	-1,675 *** (0.417)	-1,691 *** (0.417)	-1,697 *** (0.417)	0.119 (0.227)	0.112 (0.227)	0.057 (0.224)
HH Gender (Female=1)		0.499 ** (0.250)	0.531 ** (0.252)		0.056 (0.136)	0.185 (0.136)
HH Age		0.003 (0.008)	0.002 (0.008)		-0.002 (0.004)	-0.001 (0.004)
HH Employment Status		-0.019	-0.016		-0.523 **	-0.544 ***
(Working T)		(0.286)	(0.286)		(0.156)	(0.154)
HH Working Sector		-0.566 **	-0.550 **		-0.081	-0.009
(right r)		(0.164)	(0.165)		(0.089)	(0.089)
HH size			0.036 (0.043)			0.101 *** (0.023)
Expenditure per capita			4.41e-08 4.23e-08			3.21e-07 *** (2.28e-08)
N	7118	7118	7118	7118	7118	7118

Table 4.5. Impact of Program Cessation on Education and Health Consumption Patterns

Note: *, **, and *** signs indicate significance at the 10%, 5%, and 1% levels; In brackets is the standard error

The study found that the problem of low behavior of poor families in matters related to health could also be caused by factors of not being aware of their own condition and psychosocial factors. The findings of a survey of poor people's lives by Banerjee and Duflo (2007) found that the majority of poor people are not aware when they experience illness or a decrease in the quality of health, or are indifferent to their health, triggered by the perception of the impossibility of accessing health services due to health costs (direct and indirect) that cannot be afforded, a belief that the quality of service is directly proportional to the price, and the availability of more affordable substitutes for treatment (Molyneux, et al., 2016). Several of these causes lead to a relatively low utilization rate of formal health services by the poor even though health facilities are available and government expenditure on the public health sector is increasing progressively (Gaarder, Glassman, and Todd, 2010).

The results of this study indicate that PKH has the potential to become a program that can create a sustainable impact. In this case, sustainable means being able to have a consistent and positive impact on all beneficiaries, including graduates. Considering that program cessation does not guarantee that PKH beneficiaries have experienced a significant change in economic class, changes in behavior driven by conditionality during their time as PKH beneficiaries are crucial. This is because this change in behavior can encourage an increase in the welfare of poor families through the formation of human capital even though they have stopped receiving PKH assistance, such as keeping children in school, accessing formal health services, and consuming healthy food. Thus, it would be better if the behavior improves.

Several studies show that CCT programs in other developing countries, such as PROGRESA/ Oportunidades in Mexico, Bolsa Familia in Brazil, Familias en Accion in Colombia, Red de Proteccion in Nicaragua, and Avancemos in Costa Rica, managed to have a lasting impact after beneficiaries quit. From these five programs, three points can be cited in program design that are factors driving the sustainability of benefits.

First, there is a coaching and knowledge improvement program that is given to beneficiaries while receiving CCT. This program is in the form of outreach sessions or coaching classes that provide information and knowledge, as well as encouraging the social participation of beneficiaries. Information and knowledge can provide relatively strong and flexible behavior changes so as to create permanent improvements. For example, health education programs that are given periodically to beneficiaries can increase knowledge about health, thereby increasing utilization of health services and health practices by beneficiaries such as increasing consumption of nutritious food (Duarte, et al., 2004; Hoddinott, et al., 2000; Hoddinott and Skoufias, 2004; Attanasio, et al., 2005; Maluccio and Flores, 2005). Furthermore, knowledge can also increase the efforts of the poor to be able to access health services in a proactive manner such as utilizing health insurance assistance and negotiating with health service providers to vocally influence the improvement of health services (Gaarder, et al., 2010). The influence of information and knowledge is also reflected in the experimental results of Benhassine, et al. (2015) which shows that Unconditional Cash Transfer (UCT) without conditionality has an impact on school participation rates and school attendance that is relatively the same as CCT because it is driven by the distribution of information about the importance of continuing education through pamphlets, advertisements, and outreach conducted directly by community figures and officials from the public sector to parents of students. In addition to information and knowledge, interaction and social participation shaped from group activities can improve psychosocial problems which are motivating factors for the poor in accessing health and

education services, such as low self-esteem, hopelessness, stress, and distrust in public servants and the government (Molyeneux, et al., 2016).

Second, there are steps to link the CCT program with other social assistance programs that support the sustainability of the program's impact, both in the formation of human capital and in improving the welfare of poor families. For example, Bolsa Familia in Brazil is oriented towards increasing welfare, so it connects the program with three other social programs, namely Next Step, which is a series of professional certification programs in the fields of construction and tourism; PROMINP, which is a professional training program for professionals in the oil and gas industry; and the Accreditation Program, which is a professional training with the private company Odebrecht, which is engaged in the operational fields of machinery, mechanical, electrical, and civil construction. Specifically for the Accreditation Program, there is an agreement with Odebrecht to provide jobs for trainees in all projects undertaken by the company.

Avancemos in Argentina focuses on improving the education of its beneficiaries, thereby linking its program with special scholarship programs realized through collaboration with various domestic universities. Likewise, Familias en Accion in Colombia aims to improve the welfare of poor families as a whole, so it connects its program with two other social programs: Jovenes en Accion, which focuses on increasing the work participation of children aged 16 to 24 years, and Red Unidos, which connects poor families as a priority with various programs and public services so that they do not experience discrimination. Red Unidos has a goal of increasing the welfare of poor families based on nine dimensions of well-being consisting of 45 achievement indicators.

Third, systematically designing programs that directly aim to increase family productivity, such as saving behavior, investment in productive assets, and entrepreneurship training. For example, Avancemos provides incentives to beneficiary families if they are willing to save regularly from a portion of the grant received for tertiary education, vocational education, or capital for a child's business.

Even though CCT programs that have proven to be successful in creating long-term sustainable impacts apply the three points above in their program design, it should be noted that each country has its own societal characteristics. Therefore, the three things above can be considered for implementation into PKH, with adjustments that support the characteristics of the beneficiaries and the Indonesian people.

IV. Conclusion

This study aims to estimate the impact of PKH program cessation on the probability of children not attending school, the number of visits to formal health care facilities, and household consumption patterns consisting of the share of expenditure on food; milk and eggs; education; and health. This study used experimental data from the PKH trial, whereby the study sample was selected using the matching method and estimated using a quasi-experimental Difference-in-Differences (DID) impact evaluation model. Indirectly, the results of this estimate show the impact of PKH after the assistance stops being provided.

The estimation results show that program cessation tends to increase the share of expenditure on food. However, program cessation significantly increases the probability of a child being out of school and reduces expenditure on education. On the other hand, program cessation has no impact on the utilization of health service facilities, the share of expenditure on health, and the share of expenditure on milk and eggs. This finding indirectly indicates that the impact of PKH on health-related behavior tends to continue, while for education-related behavior, it tends not to continue. Referring to the literature study, the difference in the sustainability of PKH's impact can be caused by the program design. Looking at some best practices from the success of similar programs in other developing countries, there is a need for complementary programs that aim to increase the knowledge, productivity, and independence of PKH beneficiaries, as well as integration with other social programs so as to increase behavior in health and education investments in a sustainable long term.

4.1. Recommendations

We identified two limitations in this study. First, this research is limited to identifying the impact of PKH program cessation on the behavior of PKH beneficiaries. Meanwhile, the implications of the research results for the sustainability of PKH's impacts are discussed based on the research results of Alatas (2011) and Cahyadi, et al. (2020). Thus, for further research, a study can be carried out that identifies these two things simultaneously. Second, the discussion regarding the driving factors for the sustainability of PKH's impact in this study was compiled based on a literature study. So, it would be good for further research to identify the impact of PKH and/or PKH program cessation on the perceptions, aspirations, and knowledge of beneficiaries. This will contribute to the development of studies regarding CCT programs, specifically PKH, in the field of behavioral economics.

Furthermore, four points can be examined to support the development of program design and implementation of PKH so that it can have an optimal impact on poverty alleviation efforts. First, PKH has the potential to have a sustainable positive impact on poor beneficiary families, especially in aspects related to health, so this program is good to continue. Second, with the positive impact of PKH, expanding the scope of assistance to the poor and vulnerable is a good thing to do, because it can help accelerate poverty alleviation efforts. Third, the existence of a program cessation scheme should be an aspect to be considered in the development of the PKH program design so that this program can have a continuing impact even if beneficiaries stop receiving assistance; for example, by forming a complementary program in the form of training to increase knowledge and productivity for PKH beneficiaries while they are still active beneficiaries. Fourth, the need to link PKH with other social programs systematically, such as by providing information regarding the programs while they are still PKH beneficiaries to assist the process of participating in follow-up programs after they stop receiving PKH. For example, linking PKH with health assistance programs for the poor, such as JKN-KIS (Healthy Indonesia Card), and sharing education assistance programs.

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