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Does The Household Structure Create Child Labor? The Case in Indonesia

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Abstract. The existence of child labor is a complex phenomenon and is often considered a logical consequence, in a household, of the economic needs of poverty-stricken families. This is due to several factors such as the condition of the child himself, the family background, and the influences of parents, culture and environment. This paper aims to determine the effect of household structure on child labor by comparing households headed by divorced single mothers and nuclear households that include a mother and father in Indonesia. This study uses cross-sectional data from the 2014 Indonesia Family Life Survey (IFLS) with the instrumental variable (IV) method. The results showed that, for the nuclear households that include a mother and father, the probability of child labor decreased, or that when a divorced single mother heads the household, the likelihood of child labor increases, including in rural areas. The same thing happens when households headed by divorced single mothers tend to increase the likelihood of sons being sent into the labor market. Thus, household structure has a vital role in determining the decisions of parents to engage their children in paid employment.

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1. Introduction

Child labor is a global phenomenon and has become a defining social issue. Child labor is defined as an economic activity in the labor market that can interfere with the welfare of children. More specifically, it refers to work that is mentally, physically, socially, or morally dangerous and harmful to children, and/or interferes with their education by: denying them the opportunity to attend school; forcing them to leave school prematurely; or requiring them to attempt to combine school attendance with excessively long and heavy work (ILO, 2021).

Its problem lies in the detrimental impact of child involvement in the labor market, being detrimental to their physical, psychological and social development. In addition, there are long-term adverse effects on a child's accumulation of human capital (Brown et al., 2002). Furthermore, child labor has become a prominent issue since the 1997 economic crisis in Indonesia. The ILO has stated that over 152 million children aged five to 14 have become child laborers globally, with 7% of those being in the Asia and Pacific region (ILO, 2017). Developing countries are the most significant contributors to child labor (Ozoh & Uzonwanne, 2017). According to the 2009 Child Labor Survey, there are 1.29 million child workers aged 5–14 years in Indonesia (Badan Pusat Statistik, 2009). Child labor has been regulated by laws and international institutions such as the International Labor Organization (ILO) and the United Nations Children's Fund (UNICEF), which strives to eliminate child labor by supporting government policies and implementing various programs (Zafar et al., 2016). These initiatives include reducing child labor through vocational skills training for drop-out children. In Indonesia, child labor is regulated in Law Number 13 of 2003 concerning manpower to realize Indonesia's roadmap to be free of child labor by 2022 (Menteri Ketenagakerjaan Republik Indonesia, 2015).

Meanwhile, if we look at the conditions of child labor in Indonesia, the percentage of child laborers in Indonesia from 2007 to 2014 fluctuated but tended to decline, as shown in Figure 1. This decrease indicates that the government's efforts have been quite successful in helping the poor and in putting children back in school (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak, 2020). In addition, the drop in the number of child laborers demonstrates the international community's resolve to eliminate child labor. However, the decline is slowing compared to the previous period. In addition, it is assumed that the number of recorded child laborers is underestimated due to the limitations of the child labor data collection system in most countries (Gibbons et al., 2012).

On the other hand, an Indonesian Family Life Survey (IFLS) data sample of child workers aged five to 14 shows an increase in 2007 and 2014, as shown in Figure 2. This disparity in the numbers is caused by the limitations of the data collection system, and not all child workers are included in the data collection, thereby putting the numbers below the actual figure (Utama & Handayani, 2020). Moreover, the increased involvement of child labor with age may be explained by increased productivity, leading to increased opportunity costs of keeping

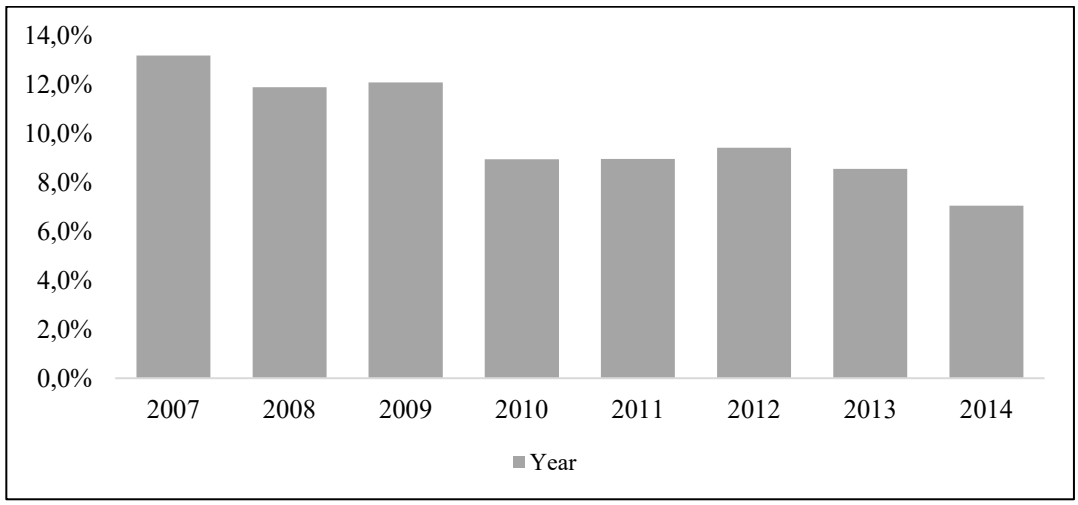

Fig. 1. Percentage of Indonesian child workers aged 10–17
Source: Survei Angkatan Kerja Nasional, 2014, BPS

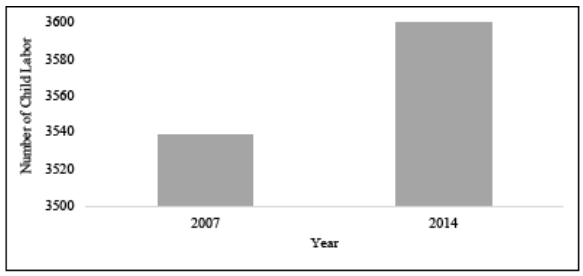

Fig. 2. Data sample of child labor in Indonesia in 2007 and 2014
Source: IFLS 4 dan 5, processed data

children in school. There are also suggestions that lack of access to post-primary schooling, especially in rural areas, reduces child labor opportunity costs (Satriawan & Ghifari, 2018).

The existence of family instability is closely related to the presence of child labor. Manning, (2015) shows that family instability is strongly associated with poorer outcomes for children. The authors argue that mothers in fragile household structures may indirectly experience higher rates of poverty and material hardship than their married counterparts. Household structure is the composition of household members according to the parents' marital status (Moehling, 2004). An intact household structure is where the father, mother and children live together. Whereas some households may only have children and single parents (either a father or a mother) either through divorce or the death of a spouse.

There are three hypotheses regarding divorce or the breakdown of household structure on child welfare according to McLanahan & Percheski (1985). The first is the "economic deprivation" hypothesis, where the socio-economic conditions of children raised by single parents have a detrimental effect on the children's welfare. The breakdown in the household structure changes the economic structure: decreasing economic ability and encouraging children to take on adult roles such as work, thereby interfering with the children's welfare. This hypothesis is referred to as the indirect effect of the breakdown of the household structure.

The second and third hypotheses is "father-absence" and "family-stress": both have a direct effect on children's welfare. The absence of a father reduces household income and decreases the role of parents as primary providers of children's behavioral and emotional development, thus affecting their welfare. The "family-stress" hypothesis explains that exposure to divorce-related conflict worsens children's conditions and pushes them to experience depression and have antisocial behavior (Biblarz & Gottainer, 2000). Such conflicts also posed significant obstacles to the child's relationship with a single parent, adjustment of self-concept and psychology (Amato, 2001).

The "father-absence" and "family-stress" hypotheses are assumed to change a mother's behavior towards her child as she attempts to avoid the direct effects of a divorce. One such change is encouraging a child to enter the labor market early. This is because the head of the household (the divorced single mother) can encourage them and primarily controls the household decision-making process (Purwanti, 2014; Haszelinna binti Abang Ali & Arabsheibani, 2016).

The breakdown of the household structure from divorce has its unique impacts compared to an intact household or the death of a spouse. A divorced household has a strenuous relationship between the parents and the children; furthermore, the child is the most affected by the decision (Matondang, 2014). Children of divorced parents have low educational attainment and behavioral, psychological and self-concept problems (Amato, 1994). The separation of mother and father due to divorce loosens control over children's behavior. The income originating from parents is disrupted, reducing the capacity to invest financially in children (Furstenberg & Kiernan, 2001). Thus, children from broken homes are relatively less fortunate than children from intact households (McLanahan & Percheski, 1985).

Being the head of the household and a single divorced mother is a heavy burden for a woman. Biblarz & Gottainer (2000) stated differences in conditions between a widow and a divorced single mother. Divorced single mothers have many disruptions in their new lives, are financially depressed, and their capacity to provide their children with care has also been disrupted, and they may be forced to participate in the workforce. Households headed by divorced single mothers may have a decline in economic situation (Kalil & Ryan, 2010).

Economic difficulties and various detrimental effects faced by households headed by divorced single mothers push mothers to look for ways to alleviate this situation. Children are seen as a resource owned by households headed by divorced single mothers. According to Manski et al. (1992), a child of a single-parent household may enter the labor market early. Thus, households headed by divorced single mothers may push children to enter the labor market early (de Mesquita & de Farias Souza, 2018) to reduce the detrimental effects of divorce on children and save the household economy. This is in line with Thijs' research (in Martin, 2013) which states that the incidence of child labor is higher in households headed by divorced single mothers.

According to Dommaraju & Jones (2011), divorce rates in most urban areas of Southeast Asia have increased. China has the highest divorce rate in Asia and globally, with over two million couples per year getting divorced. Meanwhile, the number of divorces in Indonesia has increased every year, as shown in Fig. 3. Indonesia had 175,713 couples divorced in 2017. From 2007 to 2014, the number of divorces in Indonesia reached its peak in 2012 with 346,480 couples. The second highest occurred in 2014 with 344,237 couples. This number constituted an increase of 96% over 2007.

An increase in divorce cases also occurred in various parts of Indonesia. Central Java, East Java, and West Java have the highest divorce cases in Indonesia (Badan Pusat Statistik, 2007). Interestingly, in 2014, Indramayu had a tremendous amount of divorce cases that has continued to increase every year. The leading cause of divorce is economic factors (Jamil, 2015). A similarly high divorce rate occurs in South Jakarta, where 89% of all the cases occur (Rais, 2014). The same increase in cases also occurred in Aceh (Ismiati, 2018) and Wonosobo, where a relatively high rise in divorce has occurred in the last ten years (Junaedi, 2018).

Past studies have aimed to examine the causes of child labor. Most agree that poverty is the main factor behind child labor (Edmonds & Pavcnik, 2005; Goswami & Jain, 2006; Soares et al., 2012; Sulistyowati, 2019). Other factors of child labor are household income (Basu & Van, 1998; Wahba, 2006; Satriawan & Ghifari, 2018) labor market imperfections (Dumas, 2013) and land (Bhalotra & Heady, 2003). On the other hand, studies state that a crucial factor in child labor is household structure (de Mesquita & de Farias Souza, 2018). More specific research conducted in Brazil shows that children tend to work if the household is headed by a divorced single mother rather than if the household is intact (de Mesquita & de Farias Souza, 2018). According to Moehling (2004), households of any ethnicity are more likely to encourage children to enter the workforce early if they are led by a divorced single mother than if both parents still live together. Another study, this time in Britain, found that living with a divorced single mother significantly increased a child's chances of entering the labor market (Kiernan, 1992). McLanahan & Percheski (1985) stated that children of divorced mothers were more likely to become child laborers than if they were to live with both parents.

Previous research shows the breakdown of the household structure, i.e., how divorce causes divorced single mothers to become the head of household, has a significant effect on child labor. Child labor may save the household economy; however, it harms the childrens' lives and welfare. In this case, when a divorced single mother heads the household, the detrimental impact of the child's welfare stems from the parent's divorce. Therefore, this study aims to determine the effect of household structure on child labor by comparing households headed by divorced single mothers and nuclear households that include a mother and father in Indonesia. This research contributes important empirical results regarding the effect of household structure on child labor by comparing households headed by divorced single mothers and nuclear households that include a mother and father in Indonesia.

The remainder of the paper is organized as follows. Section 2 provides more insights on materials and methods. Section 3 describes the estimation result of household structure and child labor based on gender and residence. Section

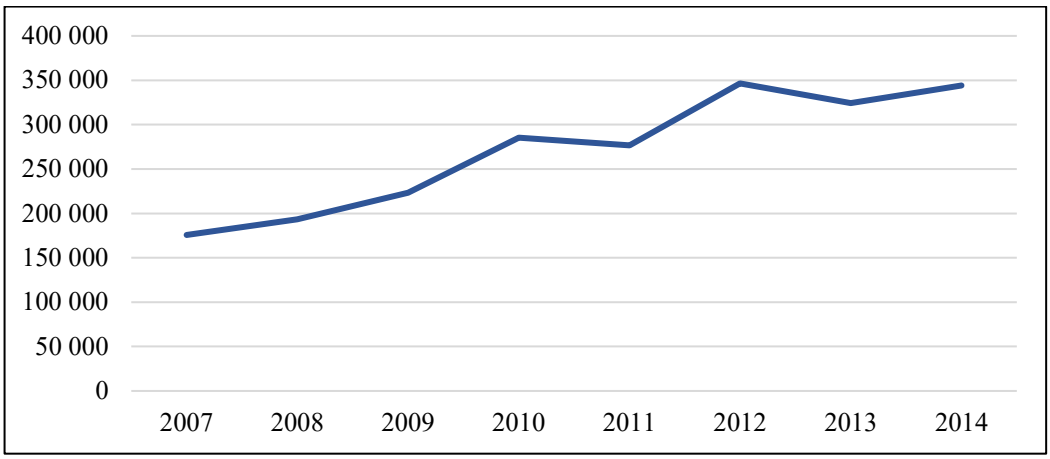

Fig. 3. Number of divorces in Indonesia in 2007–2014
Source: Badan Pusat Statistik 2007–14

4 presents the discussions, and finally, section 5 presents the conclusions.

2. Materials and methods

The household structure includes households headed by divorced single mothers and nuclear households that include a mother and father. The year 2014 was selected, as that year had interesting phenomena related to the increasing divorce rate, which changed the landscape of the Indonesian household structure. Furthermore, this study uses secondary data in the form of cross-sectional data with data sourced from the fifth wave of the Indonesia Family Life Survey (IFLS), carried out from the end of October 2014 to

Table 1. Operational variables

No.	Variable name	Information
1.	Child Labor (from Psacharopoulos, 1997; Moehling, 2004; Mesquita & de Farias Souza, 2018)	0 = Not a child laborer 1 = Child labor
2.	Household Structure (from Kiernan, 1992; Moehling, 2004; Mesquita & de Farias Souza, 2018)	0 = Household headed by divorced mother 1 = Nuclear households that include a mother and father
3.	Age of the Child (from DeGraff & Bilsborrow, 1993; Moehling, 2004; Mesquita & de Farias Souza, 2018)	Children age 5–14 years old
4.	Child Sex (Kiernan, 1992; DeGraff & Bilsborrow, 1993; Biblarz & Gottainer, 2000; by Mesquita & de Farias Souza, 2018)	0 = Female 1 = Male
5.	Children's School Status (Moehling, 2004)	0 = No School 1 = School
6.	Siblings (from DeGraff & Bilsborrow, 1993; Mesquita & de Farias Souza, 2018)	Number of siblings
7.	Mean of years schooling of household head (from DeGraff & Bilsborrow, 1993; Mesquita & de Farias Souza, 2018)	The highest level of formal education completed by head of household
8.	Employment status of household head (from Mesquita & de Farias Souza, 2018)	0 = Not working 1 = Work
9.	Age of the head of household (from DeGraff & Bilsborrow, 1993; Moehling, 2004; Mesquita & de Farias Souza, 2018)	Age of head of household
10.	Members of the household (Moehling, 2004)	Number of members in household
11.	Type of residence (from Psacharopoulos, 1997; Moehling, 2004; Mesquita & de Farias Souza, 2018)	0 = rural 1 = urban
12.	Other income (from Mesquita & de Farias Souza, 2018)	Amount of income other than from work
13.	Land ownership status (Moehling, 2004)	0 = other 1 = yes

Source: various studies

the end of August 2015. This study uses dependent and independent variables studied based on the objectives and framework of thought. The variables are explained as follows:

This study uses the instrumental variable (IV) method commonly used when an endogeneity problem lies in the equation. Endogeneity violates one of the classical assumptions where there is a correlation between the independent variable and the error term. If left untreated, it will cause bias and inconsistency in the estimation results (Wooldridge, 2013). The instrumental variable (Z) procedure uses other variables outside the model and needs to meet various conditions. Hernan & Robins (2006) explains three primary conditions to determine the instrumental variables; instrumental variable (Z) affects the independent variable (X), the Z variable affects the dependent variable (Y) only through X, and no correlation exists between the Z variables and the error terms.

De Mesquita & de Farias Souza (2018) state that the household structure variables need to be split between direct effects (father absence and family stress) and indirect effects (household income), as does the research of McLanahan & Percheski (1985). Thus, household income was excluded in this study's model (omitted variable). This may cause endogeneity when variables should be inserted but are omitted, making the estimation results biased and inconsistent. Then, religion and participation in religious activities were used as instruments of household structure that are assumed to influence

$$CL_i = \alpha + \beta_1 HS + X'\gamma_{ih} + \varepsilon_{ih}$$

household decisions due to social pressure from the surrounding (peer effect).

This study adopts the model from de Mesquita & de Farias Souza (2018), especially by comparing household structures between those headed by divorced single mothers and nuclear households that include a mother and father. However, the data are sourced differently, namely the fifth wave of 2014 IFLS data in Indonesia. In addition, the control variable was adjusted to the obtained data. So, the equation for this research is written as follows:

where *CL* is child labor, Hs shows household structure, *X* shows variables that affect child labor such as characteristics of children, i Individual, h is household, ε is the error term. The household structure is a dummy that assumes a value of 1 for nuclear families with a mother and father and a value of 0 for single-parent families headed by a divorced mother. The selection of these structures was based on the most representative family for the case in Indonesia, which was frequently compared to empirical research on child work and family structure. In this study, we refer to earlier studies (de Mesquita & de Farias Souza, 2018).

The validity test for instrumental variables is an under-identification test to identify whether the instrumental variables are relevant or correlated with endogenous regression. If it is not correlated, it will cause a bias in the IV estimation (Baum et al., 2007). Furthermore, a test to identify a weak instrument appears when the IV is correlated with

Table 2. Descriptive statistics

Variable	Obs	Mean
Child Labor (child labor=1)	9950	0.0165
Household structure (nuclear households that include a mother and father =1)	9950	0.9872
Age of child (years)	9950	9.1690
Child Sex (male=1)	9950	0.5152
Children's School Status (school=1)	9950	0.6298
Siblings (people)	9950	0.8927
Mean of years schooling of household head (year)	9950	9.1776
Employment status of household head (working=1)	9950	0.9503
Age of head of household (years)	9950	41.8231
Members of household (persons)	9950	4.8901
Type of residence (urban=1)	9950	0.5952
Other Income (log)	9950	1.4129
Land ownership status (yes=1)	9950	0.2797

Source: author own ewaluation

endogenous regression, but the relationship is weak. When this happens, the outcome of IV can be worse than OLS (Wooldridge, 2013). This is determined by looking at the Cragg–Donald F statistic; the instrument is not weak if it exceeds a predetermined critical value. Finally, the Hansen test was carried out to determine the instrument validity. The instrument is valid if it is exogenous, where there is no correlation between the variables and the error term, namely Cov(z,u) = 0 (Wooldridge, 2013).

3. Results

Table 2 shows that approximately 1.65% of children are child laborers, 63% are still in school, and 52% are boys. Children's ages ranged from five to 14 years, and the average age was nine years. The number of siblings was between zero and 11, with an average of one sibling. The household structure is dominated by nuclear households that include a mother and father (98%) rather than a household headed by divorced single mothers. The education of the head of household is seen based on the length of schooling, with nine years being the average, 21 years being the highest number, and zero or no school attendance being the lowest. The average age of the household head is 42 years, with 95% of household heads working. The number of household members ranged from two to 15 people and was five on average. In addition, 28% of households own agricultural land. The majority of the households are in a village (59%). This section will explain descriptive statistics to clarify the research variables.

The instrumental variable (IV) estimation results showed that the nuclear household structure that includes a mother and father has a negative and significant effect on child labor at 95% level, with a coefficient value of 0.440. Supposing a nuclear household includes a mother and father, the probability of child labor decreases by 0.440 point than household headed by divorced mother, ceteris paribus. In other words, when a divorced single mother heads the household, it increases the likelihood of child labor. Each child and family are obviously unique and different strengths and weaknesses from each other, different personalities and temperaments, and different levels of social, emotional, and economic resources, as well as different family situations before the divorce. Despite these differences, divorce has been shown to reduce the child's future competence in all areas of life, including family relationships, education, emotional well-being, and the strength of future earnings – even increasing the allocation of the child's time to work. Research by de Mesquita & de Farias Souza (2018) in Brazil provides similar results for child labor and states that the direct and indirect detrimental effects of divorce encourage divorced single mothers to protect their children from those effects: the decision to encourage children to enter the labor force early is a mother's strategy to minimize the detrimental effects of a father's absence from home and reduce exposure to the conflict resulting from parental divorce. A study with similar results was conducted by Moehling (2004), who stated that children living with divorced single mothers had a significantly higher likelihood of working than those living with both parents. Furthermore, since divorced status may be significantly influential to the preferences of the mother regarding the allocation of children's time between work, study and leisure, this fact corroborates the determinants of child labor, reinforcing the idea that parental behavior is very important in determining the early entry of children into the labor market.

The age of the child has a positive effect with child labor that is statistically significant at the 99% level. Children who are older are more likely to be involved in work compared to younger children. Specifically, this condition indicates that parents will make a decision to involve older children in work with consideration of the economic value and productivity of the child so that the probability of getting a higher wage will be greater. These findings are in line with the study in Indonesia that the older the child is, the higher the probability of parents involving them in or sending them to the labor market. This is in line with Suryahadi et al. (2005), who state that a person's mental and physical abilities increase with age, affecting the possibility of children entering the labor market. Similarly, the same results occurred in Africa, showing that, as age increases, the likelihood of using children for work increases (Serra, 2009). Another study, in Nepal, showed that older children tend to be more likely to work because they have a comparative advantage in household production (Edmonds, 2006).

Boys have a positive effect to child labor that is statistically significant at the 99% level. This indicates that boys have a greater probability of their parents getting them involved in work than do girls. This condition occurs because the rate of return and wages to be obtained tend to be higher than girls. This result is consistent with the finding in Indonesia that boys tend to be involved in work by their parents more than girls do (Suryahadi et al., 2005). Others research states that girls are less likely to work than boys. Meanwhile, the patriarchal

Table 3. Household structure and child labor

Variable	OLS	IV
	(1)	(2)
Household structure	-0.0010	-0.4400**
	(0.0113)	(0.180)
Age of child (years)	0.0059***	0.0051***
	(0.0004)	(0.0006)
Child sex (boys=1)	0.0096***	0.0091***
	(0.0025)	(0.0027)
Children's school status (school=1)	-0.0061**	-0.0077**
	(0.0027)	(0.0032)
Siblings (people)	0.0015	0.0002
	(0.0009)	(0.0011)
Mean of years schooling of household head (year)	-0.0011***	-0.0008**
	(0.0003)	(0.0004)
Employment status of household head (working=1)	0.0147***	0.0113***
	(0.0058)	(0.0023)
Age of head of household (years)	0.0002	0.0002
	(0.0002)	(0.0002)
Members of household (persons)	0.0019*	0.0036***
	(0.0009)	(0.0012)
Type of residence (urban=1)	-0.0002	-0.0009
	(0.0029)	(0.0034)
Other income (log)	-0.0010***	-0.0011***
	(0.0003)	(0.0002)
Land ownership status (self-owned=1)	0.0018	0.0030
	(0.0031)	(0.0035)
Constant	-0.0589***	0.376**
	(0.0150)	(0.176)
Observations	9,950	9,950
Kleibergen-Paap rk LM statistic		22.18***
Cragg–Donald Wald F statistic		95.39***
Hansen J		0.979

Source: author
Robust standard errors in brackets, *p<0.1, **p<0.05, ***p<0.01

social system places greater value and responsibility on men than on women (Purwanti, 2014).

Children's school status has a negative effect to child labor that is statistically significant at the 95% level. Research by DeGraff & Bilsborrow (1993), McLanahan & Percheski (1985) and Satriawan & Ghifari (2018) had similar results and stated that children in school are less likely to become child laborers. Satriawan & Ghifari (2018) stated that two thirds of children not in school are child laborers. Going to school and being a child laborer is a trade-off for a child because of limitations on the allocation of their time (Ray, 2000). These decisions are mutually complementary, namely between schools and child labor (Goswami & Jain, 2006).

The number of siblings gave positive results but was not significant. Similar results were found by de Mesquita & de Farias Souza (2018) and Ariyanti et al. (2016), who showed that becoming a child worker is more likely when there are more siblings – and thus more dependents – in the equation; thus, the time allocation is divided among siblings.

Furthermore, mean of years schooling has a negative effect that is statistically significant at 95%. Previous research by de Mesquita & de Farias Souza (2018) and Emerson et al. (2017) stated that the mean of years schooling of the head of

household had a significant negative relationship with child labor. According to Suryahadi et al. (2005), the length of schooling of the head of household determines the condition of poverty; the higher mean of years schooling, the lower the poverty rate. In addition, if a head of household has a high education, that person also has a heightened perception of the importance of child welfare and education, which will, in turn, reduce and prevent child labor (de Mesquita & de Farias Souza, 2018).

The working status of the head of household has a positive effect with child labor that is statistically significant at 99%. This means that when the head of the household is working, the probability of child labor increases by 0.0011 points than when the head of the household is not working, *ceteris paribus*. This is in line with Cummings (2016) and de Mesquita & de Farias Souza (2018), who stated that child labor increases when the head of household works. Utama & Handayani (2020) explained that heads of household who work in the agricultural or informal sector would bring their children to work in the same sector.

There was no significant effect of the head of household's age on whether a child becomes a laborer. This is related to the physical ability of the head of household. Research by Nursita & Putri (2018) and Suryahadi et al. (2005) obtained similar results – that the age of the head of household has no significant effect on child labor.

Number of household members has a positive effect that is statistically significant at 99% level. These results identify that a greater number of household members will indirectly increase household spending, and although the household income may also increase, the living cost would be so much higher, thus households will decide to engage their children in the labor market. This finding is in line with Goswami & Jain (2006), who state that the number of household members has a positive effect on child labor. Household members can present the household dependency ratio (Suryahadi et al., 2005). When household size increases, not all expenses can be financed, so children are encouraged to work (Admaw & Ghosal, 2018).

Living in a rural area has a negative but not significant effect on child labor. These results are consistent with research conducted by de Mesquita & de Farias Souza (2018), Moehling (2004) and Psacharopoulos (1997). Child labor in urban areas is not seen as often as child labor in rural areas, as most rural communities are engaged in the agricultural sector (Cummings, 2016).

The estimates show that the other total income shows negative effect that is statistically significant at the 99% level. These results indicate that a decrease in household income will increase the number of child laborers. Thus, to compensate for the decline in income, households need additional income by increasing the labor provided by their family members, especially their children. These findings are consistent with a study in Tanzania that found that, when income fluctuations occur, households actively use child labor in response to income variability (Bandara et al., 2015). This is in line with research by de Mesquita & de Farias Souza (2018), which similarly explained that other incomes have a positive impact on children's welfare, reducing the possibility of child labor.

Land ownership status has a positive but not significant effect on child labor. This is in line with the research of Cockburn & Dostie (2007), in which land ownership has a positive effect on child labor but is not significant. Households that own land will try to avoid losses from employing others by employing their own children work (Goswami & Jain, 2006).

3.1. Household structure and child labor based on child's gender

Table 4 presents the estimation results based on the gender of the children (boys and girls). It shows that nuclear households with a mother and father has a negative and significant effect on child labor if the child is a boy at 95% level. On the other hand, when a divorced single mother heads the household, it increases the likelihood of child labor. Households headed by divorced mothers show that girls tend to help more with housework, while boys are sent to the labor market (de Mesquita & de Farias Souza, 2018).

3.2. Household structure and child labor based on residence

Table 5 below presents the estimation results by place of residence. The results of the Kleibergen–Paap LM statistical test on under-identification were statistically significant providing evidence to reject the null hypothesis about the under-identification of the instrument. The same results in the Cragg-Donald F test were statistically significant, indicating that the instrument was not weak. In addition, the insignificance of Hansen J's statistical results in the model indicates that we failed to reject the null hypothesis. Therefore, the instrument employed in this study is valid (not correlated with the error

Table 4. Household structure and child labor based on child's gender

Variable	OLS		IV	
	Boys	Girls	Boys	Girls
	(1)	(2)	(3)	(4)
Household Structure	-0.0148	0.0160***	-0.526**	-0.174
	(0.0244)	(0.003)	(0.228)	(0.234)
Constant	-0.0609**	-0.0496***	0.440**	0.141
	(0.0295)	(0.0124)	(0.219)	(0.236)
Observations	5,127	4,823	5,127	4,823
Kleibergen–Paap rk LM statistic			16.22***	6.474**
Cragg–Donald Wald F statistic			84.45***	20.40***
Hansen J			0.302	0.229

Source: Author
Robust standard errors in brackets, *p<0.1, **p<0.05, ***p<0.01
Variable control including: age of child (years), child sex (male=1), children's school status (school=1), siblings (people), mean of years schooling of household head (year), employment status of household head (working=1), age of head of household (years), members of household (persons), type of residence (urban=1), other income (log), land ownership status (yes=1)

term). On the basis of these results, the instrument is valid, not weak, and relevant, making the estimated model reliable.

Estimate using the IV method for households residing in a village has a significant effect at the 90% level. Thus, when the household is headed by a divorced single mother and is in a village, it will increase the probability of child labor. Child labor has become a common phenomenon in Indonesia,

Table 5. Household structure and child labor based on residence

Variable	OLS		IV	
	Rural	Urban	Rural	Urban
	(1)	(2)	(3)	(4)
Household Structure	0.00267	-0.00318	-0.780*	-0.283
	(0.0197)	(0.0181)	(0.458)	(0.176)
Constant	-0.108***	-0.0267	0.656	0.252
	(0.0279)	(0.0226)	(0.442)	(0.176)
Observations	4,028	5,922	4,028	5,922
Kleibergen–Paap rk LM statistic			7.826**	14.38***
Cragg–Donald Wald F statistic			28.66***	64.58***
Hansen J			0.275	0.534

Source: Author
Robust standard errors in brackets, *p<0.1, **p<0.05, ***p<0.01
Variable control including: age of child (years), child sex (male=1), children's school status (school=1), siblings (people), mean of years schooling of household head (year), employment status of household head (working=1), age of head of household (years), members of household (persons), type of residence (urban=1), other income (log), land ownership status (yes=1)

as the country is dominated by the agricultural sector (ILO, 2021).

3.3. Robustness check

This study also tested the consistency (robustness check) of the key variables of household structure. The test is done by comparing two regression models in the IV method, the first model has no added control variables, and the second model uses control variables. Table 6 shows that the nuclear household structure consistently affects child labor negatively and significantly before and after adding control variables.

4. Discussion

The findings of this research showed that the household structure plays a significant role in determining the probability of child labor. The results in the research using the instrumental variable method show important evidence of the influence of household structure on child labor decisions made by parents in Indonesia, where

Table 6. Robustness check

Variable	IV	
	(1)	(2)
Household structure	-0.443**	-0.440**
	(0.192)	(0.180)
Age of child (years)		0.0051***
		(0.0006)
Child sex (boy=1)		0.0091***
		(0.0027)
Child's school status (school=1)		-0.0077**
		(0.0032)
Siblings (people)		0.0002
		(0.0011)
Mean of years schooling of household head (year)		-0.0008**
		(0.0004)
Employment status of household head (working=1)		0.0113***
		(0.0023)
Age of head of household (years)		0.0002
		(0.0002)
Members of household (persons)		0.0036***
		(0.0012)
Type of residence (urban=1)		-0.0009
		(0.0034)
Other income (log)		-0.0011***
		(0.0002)
Land ownership status (self-owned=1)		0.0030
		(0.0035)
Constant	0.447**	0.376**
	(0.188)	(0.176)
Observations	9,952	9,950
Kleibergen–Paap rk LM statistic	22.30***	22.18***
Cragg–Donald Wald F statistic	86.72***	95.39***
Hansen J	0.999	0.979

Source: Author
Robust standard errors in brackets, *p<0.1, **p<0.05, ***p<0.01

divorce status in a household has a significant effect on mothers' preferences regarding the allocation of children's time between work, study and leisure. This effect can be transmitted to the child due to changes in maternal behavior caused mainly by the absence of the father and exposure to stressful family situations arising from divorce. These results confirm that the determinants of child labor, which influence the behavior of parents, are very important in determining the early entry of children into the labor market.

Regarding the gender of the child, the detrimental effect was greater for boys than for girls, indicating that boys were more negatively affected by the breakdown of the household structure. In households headed by divorced mothers, it is likely that girls are more exposed to activities in the household, such as helping with household chores, while boys may be sent to the labor market. Furthermore, if the household is headed by a single mother who is divorced and resides in a village dominated by the agricultural sector, this will increase the likelihood of child labor.

5. Conclusion

This research concludes that nuclear households that include a mother and father have a negative and significant effect on child labor. In other words, when a divorced single mother heads the household, it increases the likelihood of decisions to engage in child labor, both for boys and girls and in urban and rural areas. This indicates that the decision to encourage children to enter the workforce at an early age is one of the mother's strategies to minimize the detrimental impact of the father's absence from home and to reduce conflict due to parental divorce. A good household structure must maintain household resilience and harmony in various aspects to ensure that children's welfare is provided for and child labor can be avoided. In addition, all parties need to participate in efforts to avoid child labor. Policies are needed to increase parental awareness about the detrimental impacts, and child labor policies have to consider household structure because child labor decisions are ultimately based on parents' decisions. This study contains limitations due to the use of cross-sectional data. Thus, it is hoped that future research on household structure and child labor will include longitudinal data to compensate for the possibility of unobserved variation that can influence outcomes.

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