Children in the Turkish Labour Market

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Abstract: The purpose of this paper is to reveal determinants of child labour in Turkey. According to Working Child Survey (WCS), almost 6 percent of children was economically active in 2012. Although measures at national level have been taken to avoid child labour, this rate has not changed since 2006.

To my knowledge, this is the first paper providing a micro level analysis with more than 27 thousand observations from a national survey. Probit analysis point that parental education plays an important role on children's involvement in employment using WCS 2012 that covers children aged from 6 to 17.

Key Words: Child labour, Turkish labour market, Working Child Survey.

1. INTRODUCTION

Child labour is an extremely important issue affecting "...the mental, social, physical and psychological development of children" (Unicef, n.d.). This harmful action faced by noticeably young population of developing world deserves a careful investigation to eliminate it for a prosperous future. Turkey, as one of these countries, implements policies to prevent child labour particularly in priority target groups such as street labours, paid mobile and temporary agricultural labours and labours in hazardous jobs as mentioned in the last national program (Ministry of Labour and Social Security, 2017). According to Working Child Survey which is conducted by Turkish Statistical Institute (TurkStat), almost 900 thousand children between the ages of 6 and 17 were economically active in 2012. Although there exist some measures to push children out of the labour market, numbers in 2012 do not seem to be improved in comparison with the numbers of 2006. As a proportion of total child population, almost 6 percent of children was working in 2012, the same as in 2006. More recently, the economic recession and increased population through Syrian refugee inflows in the country seem potentially to make child labour more visible. Therefore, child labour in Turkey deserves more attention paid to understand dynamics of this type of labour supply and implement more appropriate policies.

Theoretical basis for the child labour can be found in the contributions of earlier writes such as Marx in a time of intensive child labour usage (Basu, 1999). Marx in Capital (Volume I) highlights that machinery reduced the necessity for muscle strength labour and caused a downward pressure on wages. Eventually low wages and less need of muscle strength gave rise to employ women and children along with men to support family's survival. Substantial body of current literature argues that poverty is one major driver of the incidence of child labour in several countries. Edmonds (2005), using panel data from the 1993 and 1998 Vietnam Living Standards Surveys at household level, showed that improvement in the economic status decreases child labour in the household. One way of improvement in the household welfare is cash transfers that reduce children's participation into labour market (de Hoop & Rosati, 2014; Edmonds & Schady, 2012). However, it is also argued that the major reason for a child to be involved in the labour market may not be poverty, but instead increased wealth of household (Basu, Das, & Dutta, B 2010). Authors, using the data set from Northern India, found that when household's wealth increases through owning land up to a certain level, child labour increases, which invalidates the assumption of poverty as a primary cause for child labour.

International regulations might be thought as an instrument to eliminate child labour. In this respect, International Labour Organisation (ILO) has put some sets of international standards to avoid violation of fundamental rights and elimination of child labour. Minimum Age Convention (1973) is one of them in which abolishment of admission of young children to employment is aimed. This convention is in force in 172 countries and specified minimum age to work changes between 14 and 16 across countries. Another instrument, Worst Forms of Child Labour Convention (1999), underlines designations of measures in member countries (186 members) to eliminate worst forms of child labour that is "...likely to harm the health, safety or morals of children" (Article 3) such as drug trafficking,

prostitution, any type of slavery. Although there exist national and international regulations/programmes/measures around the world, still according to ILO (2017) worldwide 152 million children worked in 2016, almost half of them were below age of 12.

In modern societies, compulsory education has been commonly applied by government authorities to provide at least a basic level of education for everyone and indirectly to alleviate child labour. Empirical literature widely discusses the importance of children's educational attainment on the incidence of child labour (Del Rey et al., 2018; Lambon-Quayefio & Owoo, 2018; Menon & Rodgers, 2018). Parents' education is also as important as children's education. Khatab, K., Raheem, Sartorius, and Ismail (2019), using data from Egypt (2014 Demographic and Health Survey), found that children with no-formal-education mothers are more likely to be involved in child labour (Khatab et al., 2019). This result is supported by Basu et al. (2010) as well. Education in this type of policies might seem to be a way to increase positive externalities as discussed by Basu (1999).

Turkey is an interesting country as it is an upper middle-income country in Europe and Central Asia region with considerable numbers of children in employment. This country had ratified either national or international regulations to protect children and pre-university (12 years) education has been made compulsory since 2012 . However, child labour still remains as an issue in the country. Even though child labour literature is sizeable across the world, it is piecemeal and lacking an overarching empirical investigation in the case of Turkey. A limited number of studies examine the dimensions of child labour in Turkey (Gokalp, 2011; Gunoz, 2007; Karaman & Ozcalik, 2007; Lordoglu & Aslan, 2018; Lordoglu & Etiler, 2014; Sen & Kahraman, 2012; Tor, 2010). The legal regulation in the country clearly sets age of children and under which conditions to be employed (Article 71 in the Labour Law No. 4857). Gokalp (2011) discusses what kinds of legal regulations have been implemented by Turkish authorities and criticizes them due to lack of enough protection of children. Legal regulations and 8-year compulsory education which was adopted in 1997 seem to have a certain degree of control over child labour. As mentioned by Gunoz (2007), fast growing population, internal migration from rural to urban, poverty, problems on accessing education, high level of unemployment, etc. give rise to child labour since early ages of childhood. Apart from supply side factors, there also exist a demand side that facilitate this type of labour in particular occupations like traditional handicraft production (Tor, 2010). No matter which side pushed/pulled children into employment, the fact is almost 6 percent of child population engaged in an economic activity and more than 40 per cent of child labours work to contribute household income in which almost half of them are unpaid family workers across the country (2012 WCS).

Given the difficulty of unreliable and incomplete data, to the best of my knowledge, there is no previous empirical study that estimates determinants of child labour and child income at the national level in the case of Turkey. Yet, as highlighted during the research, there are considerable numbers of child labour and the progress to eliminate it does not seem promising. Therefore, to enhance the knowledge in the Turkish labour market, this study uses an econometric analysis that is expected to provide more accurate results which are crucial to shape policies.

The results obtained from the analysis in this paper rely on cross-sectional data because of limited available data. Therefore, it does not allow to see how child labour and income change over time in the estimation. However, even with this limitation in mind, the results point to the education's (both child's own education and parental education) impact on reducing the probability of being employed for children.

2. DATA AND METHODOLOGY

The study uses Working Child Survey (WCS) that was conducted by Turkish Statistical Institute (TurkStat) in 2012. Even though this survey periodically conducted 4 times, only one wave of them, 2012 is available. WCS is a nationally representative sample that is spanning across the country. We measure children's labour market participation with an indicator for children who are working outside the household. The dummy variable for child labour is constructed by using the information contained in the WCS data set, i.e. whether the child is working? The dummy variable assumes the value of 1 if a child works and 0 otherwise. From Figure 1, mostly boys were engaged in economic activities while girls were more active in household chores. It is observed that about 6 per cent of the sample were economically active which counts 1560 working children out of 27118 of them.

Figure 1: Working status of children in the sample
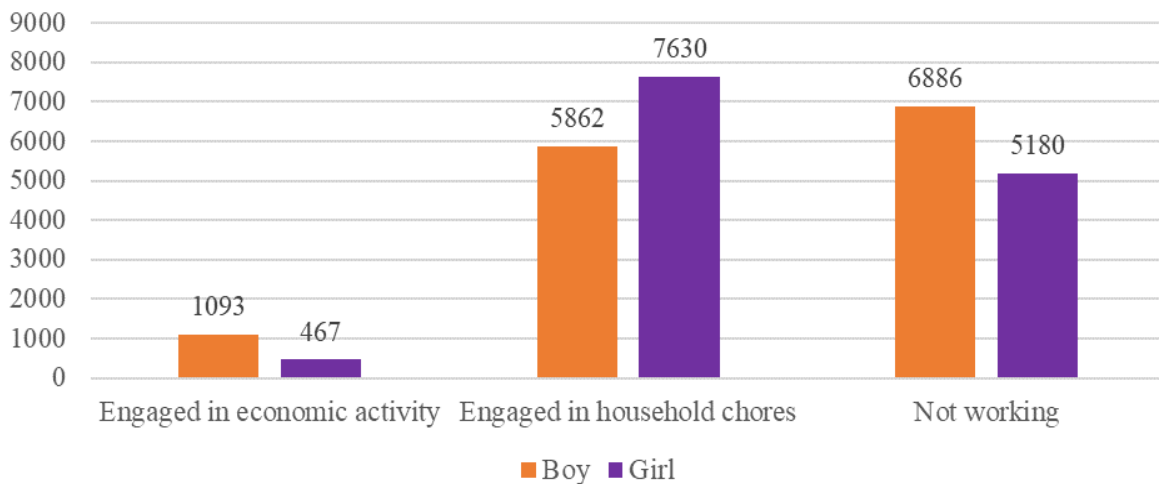
Source: Author's calculation based on 2012 Working Child Survey

Those children who engaged in an economic activity are predominantly in 15-17 age group as we expect. Rest of 31 percent of total working sample is in the early age group, 6-14 years old children. Survey also ask about monthly income level that allows us to investigate which factors possibly affect the income level of those children who work. Another employment related variable is occupation. This is an ISCO 08 classification that has three rough categories of occupation as seen below:

Almost half of the working child sample is clustered in skilled manual jobs. The second biggest group is working in the elementary jobs such as food preparation, agricultural labourers, street workers, etc. Non-manual workers are relatively low in the sample. This is probably because this group need more education and experience. As they are below 18, they are not likely to be university graduates.

Figure 2: Working status of children in the sample
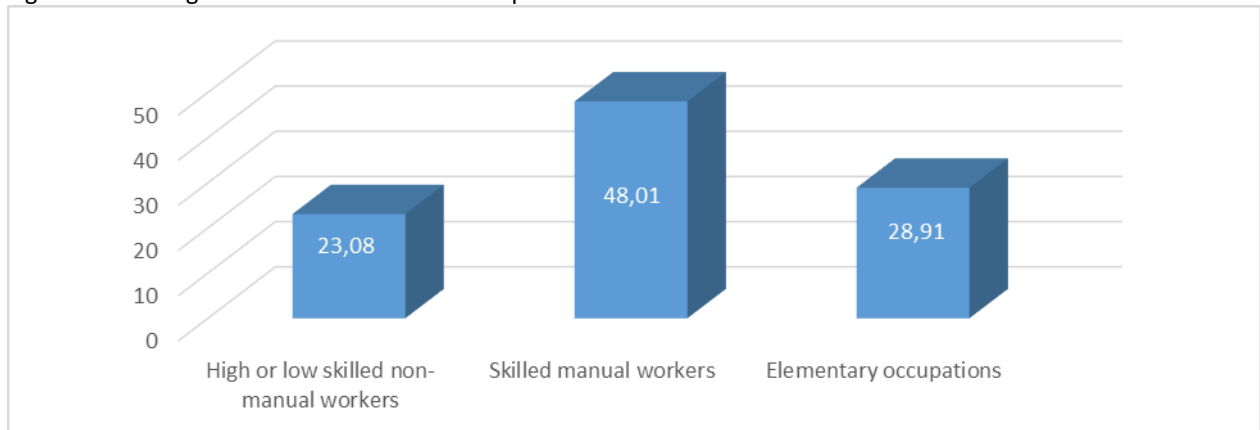
Source: Author's calculation based on 2012 Working Child Survey

Figure 3: Educational status
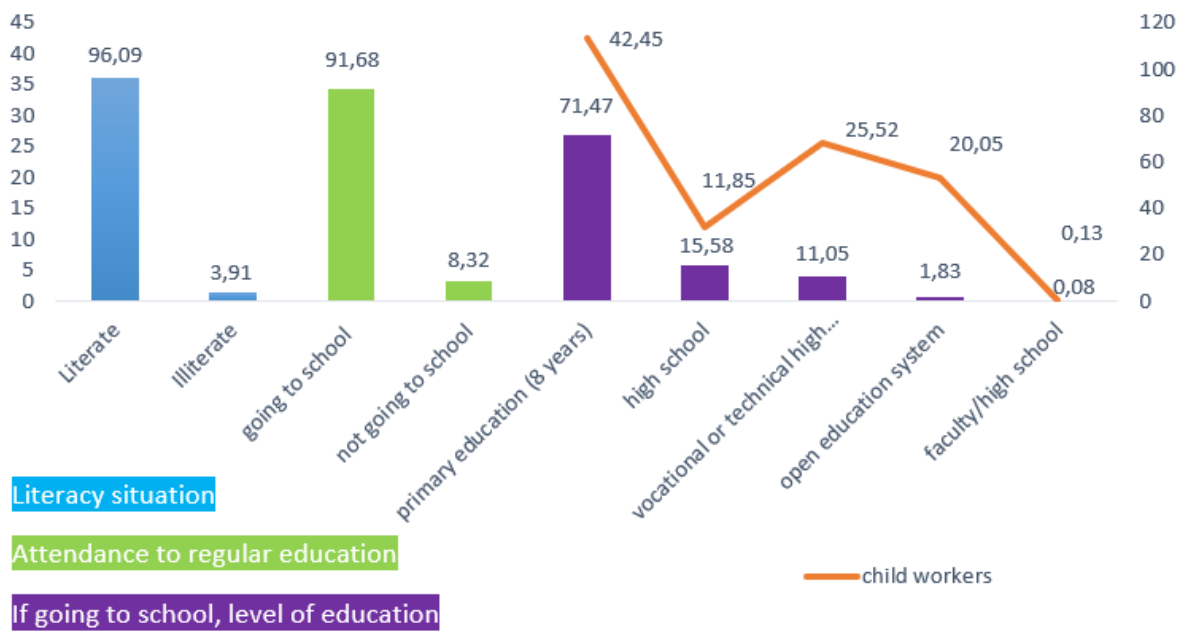
Source: Author's calculation based on 2012 Working Child Survey

Figure 3 presents literacy status of children in the sample. Although most of them are literate, not many completed school. 91.68 per cent of children are still going to school and most of them (71.47 percent) are primary school students. Those who are going to primary school are also working. The highest worker share is observed in this group of children. Vocational school students make 1/4th of workers which is the second biggest group. Since they learn particular occupations such as carpentry, electronic technology, horticulture, computer programming etc., vocational high school students might be more advantageous in the labour market in comparison with standard high school students.

The first objective of this paper is to investigate the determinants of child labour. For this purpose, the following estimation equation is used:

$Child\_Labour = \beta_0 + \beta_1 Personal + \beta_2 Household\_size + \beta_3 Parental\_education + \beta_4 Area + \varepsilon$

where child labour is a binary dependent variable taking 1 if a child is working and 0 otherwise. The variable personal is a vector of variables representing individual characteristics such as gender, age group and education, while parental education represents household reference member's education level. The other explanatory variable area represents the area of residence (i.e. rural or urban).

The second objective is to investigate determinants of a child worker's income. WCS survey provides an information on the income group in which the dependent variable is a latent continuous metric underlying the ordinal responses observed in the survey. The model in Equation 2 is used to explain what factors affect a child's income:

$Child\_Income = \beta_0 + \beta_1 Personal + \beta_2 Sector + \beta_3 Occupation + \beta_4 Status + \varepsilon$

where child income is categorical dependent variable which captures relevant income group. The responses are scaled from 1: monthly income of 0-100 Turkish Liras, to 7: monthly income of more than 601 Turkish Liras. The variable sector represents in which sector a child is working (i.e. agriculture, industry and services), while occupation represents branch of occupation (ISCO 08) which has 3 categories: 1. High or low skilled non-manual workers, 2. Skilled manual workers, 3. Elementary occupations. The last explanatory variable status represents status in employment whether a child is 1. Regular or casual employee or 2. Self-employed or 3. Unpaid family worker. Since the model is to investigate the income, unpaid family workers are not included in this model.

Classical regression models which require a continuous dependent variable cannot be utilised here since dependent variables in this paper are categorical variables. Therefore, considering the structure of the dependent variables, we apply probit and ordered probit analysis, respectively.

3. RESULTS

3.1. Child labour

First part of the analysis is a probit analysis in which the determinants of child labour are explained using a set of relevant explanatory variables. Child labour is measured as engaging in economic activity and data for 2012 is used. Table 1 reports estimated marginal effects for the first probit model. This model attempts to identify determinants of child labour. The first column presents the results for full sample while next two columns presents the results for boys and girls, respectively. Based on the results, boys with a large family are more likely to be involved in employment and family size does not have a significant impact on girls' employment. 1 more family member increases employment of boys by 2 percentage points. Boys' probability of being employed is 45.3 percentage points higher than girls. As we can expect children over 14 are more likely to be employed and it is higher for boys. Variable urban in the model shows that likelihood of employment is lesser for urban children than rural ones. One possible might be that land ownership in the rural areas increases households' need for labour. As explained by Basu et al. (2010), increasing marginal products of labour through increased land ownership initially lead to an increase in child labour.

As one the most important indicators, education, findings show that only primary school education has a significant impact on child labour. Children with 8-year primary education are more likely to be employed and the likelihood is higher for girls. The probability of being employed for both boys and girls shows a strong decline when households reference member have post-primary education, perhaps because increasing human capital enhances households' wealth. So, the more wealth a household has, the lesser probability for a child to work. Another variable in the model shows that children are less likely to work when household reference member is older.

Table 1: Probit analysis: The Determinants of Child Labour

Variables	Child Labour		
	Full sample	Boys	Girls
Household size	0.018***	0.020**	0.015
	(0.006)	(0.008)	(0.010)
Area (reference group=rural)			
Urban	-0.440***	-0.328***	-0.622***
	(0.029)	(0.037)	(0.048)
Gender			
Boy	0.453***		
	(0.029)	-	-
Age group (reference group=6-14 age group)			
15-17 age group	0.742***	0.901***	0.505***
	(0.045)	(0.059)	(0.070)
Education (reference group=illiterate)			
Primary education (8 year)	0.377***	0.311***	0.452***
	(0.046)	(0.060)	(0.072)
High school	0.382	0.240	0.592
	(0.259)	(0.332)	(0.411)
Vocational or technical high school	0.404*	0.320	0.507
	(0.241)	(0.311)	(0.394)
Household reference's education (reference			
Literate but no school completed	0.058	0.083	0.016
	(0.068)	(0.085)	(0.113)
Primary school graduate	-0.065	-0.065	-0.063
	(0.051)	(0.066)	(0.082)
Primary education	-0.201	-0.088	-0.383
	(0.180)	(0.221)	(0.339)
Secondary school or vocational school	-0.365***	-0.438***	-0.249**
	(0.069)	(0.088)	(0.110)
High school	-0.575***	-0.622***	-0.488***
	(0.082)	(0.103)	(0.136)
Vocational school at high school level	-0.453***	-0.521***	-0.337**
	(0.082)	(0.105)	(0.134)
Higher education graduate	-1.062***	-1.194***	-0.808***

	(0.105)	(0.133)	(0.167)
Master or doctorate	-	-	-
Age of household's reference member	-0.006***	-0.006***	-0.005**
	(0.002)	(0.002)	(0.003)
Constant	-1.731***	-1.387***	-1.562***
	(0.107)	(0.133)	(0.172)
Observations	26,878	13,730	13,148

Standard errors in parentheses

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

Note: Dependent variable is a binary variable taking 1 if a child is working and 0 otherwise.

3.2. Child income

Second objective of this paper is to identify which factors influence children's income. To simplify the presentation of the estimated marginal effects and have a more balanced structure of the categories, three broader income categories are generated.

Table 1: Ordered Probit Analysis: The Determinants of Child Income

Variables	Original	Marginal effects		
		Low Income	Mid Income	High Income
Sector (reference group=agriculture)				
Industry	0.154	-0.043	-0.010	0.052
	(0.150)	(0.043)	(0.008)	(0.050)
Services	-0.068	0.020	0.002	-0.022
	(0.161)	(0.048)	(0.005)	(0.053)
Branch of occupation (ISCO 08) (reference group=non-manual workers)				
Skilled manual workers	0.023	-0.007	-0.001	0.007
	(0.120)	(0.036)	(0.003)	(0.039)
Elementary occupations	0.237*	-0.066*	-0.014*	0.080*
	(0.125)	(0.035)	(0.008)	(0.042)
Status in employment (reference group=casual employee)				
Self employed	0.029	-0.008	-0.001	0.009
	(0.266)	(0.075)	(0.014)	(0.089)
Household size	0.040**	-0.011**	-0.002*	0.013**
	(0.019)	(0.005)	(0.001)	(0.006)
Education (reference group=illiterate)				
Primary education (8 year)	0.025	-0.007	-0.001	0.008
	(0.130)	(0.038)	(0.005)	(0.043)
High school	4.634	-0.249***	-0.446***	0.695***
	(122.081)	(0.034)	(0.051)	(0.063)
Vocational or technical high school	0.998*	-0.193***	-0.164	0.357**
	(0.538)	(0.065)	(0.123)	(0.181)
Household reference's education (reference group=illiterate)				
Literate but no school completed	0.047	-0.012	-0.004	0.017
	(0.176)	(0.045)	(0.016)	(0.062)

Primary school graduate	-0.147	0.041	0.009	-0.050
	(0.139)	(0.037)	(0.011)	(0.048)
Primary education	0.738	-0.139**	-0.130	0.270
	(0.482)	(0.066)	(0.108)	(0.170)
Secondary school or vocational school	-0.144	0.040	0.009	-0.049
	(0.201)	(0.056)	(0.013)	(0.068)
High school	-0.111	0.030	0.007	-0.038
	(0.255)	(0.071)	(0.015)	(0.086)
Vocational school at high school level	-0.282	0.082	0.011	-0.093
	(0.253)	(0.076)	(0.011)	(0.080)
Higher education graduate	-0.888**	0.296**	-0.055	-0.241***
	(0.410)	(0.148)	(0.075)	(0.084)
Observations	861	861	861	861
Pseudo R2		0.0599		

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$
Note: Dependent variable is income of children. Only children who are paid worker or self-employed are included in the model. So, unpaid family workers are involved here. Specifications include covariates of gender (boy), age group, area, and age of household's reference member. Children who are unpaid family workers are not included in the model.

Table 2 reports the result of ordered probit model including estimated marginal effects. In this model, we attempt to identify determinants of child income in which there are three categories: i. Low income; ii. Mid income; iii. High income. Findings show that there is no statistically significant impact of sectors being employed on child income. Compared to non-manual workers, children with elementary occupations are more likely to be in high income category. Another variable in the model shows that the more member in the family, the higher probability of being in the high-income category. Intuitively, a large family requires a higher household income and increases the need for children to earn more. Results also show that working children with post-primary education are more likely to be in high income category. Interestingly, children with high educated parents (post high school) are less likely to earn high income. One explanation might be that time allocation of children in a high educated family should be in favour of more education instead of more work. This in return brings lower income. Another explanation might be related to on-the-job training purposes (Menon & Rodgers 2018). If priority were training/learning rather than income in the first place, working children would work less hours and so earn less income.

4. CONCLUSION

This study analysed determinants of child labour and which factors affect a working child's income

in Turkey using 2012 Working Child Survey which is the only data set specifically looking at child labour. The results showed that household size matters for boys to involve in employment. A larger family increases the likelihood of engaging in an economic activity for boys and increases the likelihood of being in the high-income category for working children. Apart from household size, the area where children live has a significant impact on their entrance into the labour market. Living in an urban area lowers the probability of being employed (almost double in magnitude for girls). In addition, results indicate that parental education is a significant factor for a child to enter the Turkish labour market, yet it is not that significant for income of children who are already in the labour market. A child with a parent who completed 8-year primary education are less likely to be in low income category than a child with illiterate parent. This might be explained in a way that basic education provides an easier access to information that might be useful to guide children in comparison with illiterate parents. Interestingly, working children of high educated parents are more likely to be in the low-income category. The most possible explanation for this finding is that children's income in high educated households is not as much valued as it is for low educated ones.

As for policy, it is obvious that a ban on child labour itself is not an efficient policy as far as seen from the data that is likely to be much bigger than the documented ones. Banning child labour and

compulsory education should be important regulations in Turkey, though they were not measured in this paper due to limited available data. However, child labour numbers have not improved since 2006. A reduction in child labour might be fulfilled when both parents and children are more educated. Therefore, an appropriate policy recommendation would be using education as a tool.

REFERENCES

Basu, K. (1999). Child Labor: Cause, Consequence, and Cure, with Remarks on International Labor Standards. Journal of Economic Literature, 37 (3): 1083–1119. https://doi.org/10.1257/jel.37.3.1083.

Basu, K., Das, S. & Dutta, B. (2010). Child Labor and Household Wealth: Theory and Empirical Evidence of an Inverted-U. Journal of Development Economics, 91 (1): 8–14. https://doi.org/10.1016/j.jdeveco.2009.01.006.

Edmonds, E. V, & Schady, N. (2012). Poverty Alleviation and Child Labor. American Economic Journal : Economic Policy, 4 (4): 100–124.

Gokalp, Ö. T. (2011). Türk İş Hukukunda Çocuk İşçi Çalıştirma. Electronic Journal of Vocational Colleges, 125–35.

Gunoz, M. (2007). Türkiye'de Çocuk İşçiliği Sorunu. T.C. Çalışma ve Sosyal Güvenlik Bakanliği. https://media.iskur.gov.tr/15621/mustafa-gunoz.pdf .

De Hoop, J., & Rosati, F. C. (2014). Cash Transfers and Child Labor. The World Bank Research Observer, 29 (2): 202–34. https://doi.org/10.1093/wbro/lku003.

Karaman, B. & Ozcalik, M. (2007). Türkiye'de Gelir Dağılımı Eşitsizliğinin Bir Sonucu. Yönetim ve Ekonomi 14 (1): 25–41. https://doi.org/10.18657/yecbu.18292.

Khatab, K., Raheem, M. A., Sartorius, B. & Ismail, M. (2019). Prevalence and Risk Factors for Child Labour and Violence against Children in Egypt Using Bayesian Geospatial Modelling with Multiple Imputation. PLoS ONE, 14 (5): 1–20. https://doi.org/10.1371/journal.pone.0212715.

Lambon-Quayefio, M. P., & Owoo, N. S. (2018). Child Labour, Future Earnings and Occupation Choice: Evidence from Ghana. International Journal of Social Economics, 45 (12): 1590–1608. https://doi.org/10.1108/IJSE-06-2017-0261.

Lordoglu, K., & Aslan, M. (2018). Görünmeyen Göçmen Çocukların İşçiliği : Türkiye'deki Suriye'li Çocuklar. Çalışma ve Toplum Dergisi, 2: 715–32.

Lordoglu, K., & Etiler, N. (2014). Batı Karadeniz Bölgesinde Mevsimlik Gezici Tarım İşçiliğinde Çalışan Çocuklar Üzerine Sınırlı Bir Araştırma. Çalışma ve Toplum Dergisi, 2: 115–34.

Menon, N., & Van Der Meulen Rodgers, Y. (2018). Child Labor and the Minimum Wage: Evidence from India. Journal of Comparative Economics, 46 (2): 480–94. https://doi.org/10.1016/j.jce.2017.09.001.

Rey, E. D., Jimenez-Martin, S., & Castello, J. V. (2018). Improving Educational and Labor Outcomes through Child Labor Regulation. Economics of Education Review, 66: 51–66. https://doi.org/10.1016/j.econedurev.2018.07.003

Sen, B., & Kahraman, F. (2012). Oyun Hakkının Uza ğında Yaşamak: Türkiye'de İçgöç ve Çocuk Emeği. SDU Faculty of Arts and Sciences Journal of Social Sciences, 27: 167–89.

Tor, H. (2010). Türkiye'de Çocuk İşçiliğinin Boyutları. Journal of World of Turks, 2 (2): 25–42.