AMERICAN UNIVERSITY OF BEIRUT

THE EFFECTS OF JUNTOS IN PERU

by
FARAH RADWAN TOHMEH

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master in Economics
to the Department of Economics
of the Faculty of Arts and Sciences
at the American University of Beirut

Beirut, Lebanon
April 2017

AMERICAN UNIVERSITY OF BEIRUT

THE EFFECT OF JUNTOS IN PERU

by

FARAH RADWAN TOHME

Approved by:

Dr. Nisreen Salti, Assistant Professor — Advisor
Economics

Dr. Pierre Mouganie, Assistant Professor — Member of Committee
Economics

Dr. Serena Canaan, Assistant Professor — Member of Committee
Economics

Date of thesis/dissertation defense: April 26, 2017

AMERICAN UNIVERSITY OF BEIRUT

THESIS, DISSERTATION, PROJECT RELEASE FORM

Student Name:

Tohme	Farah	Radwan
Last	First	Middle

☑ Master's Thesis ○ Master's Project ○ Doctoral Dissertation

☑ I authorize the American University of Beirut to: (a) reproduce hard or electronic copies of my thesis, dissertation, or project; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes.

○ I authorize the American University of Beirut, to: (a) reproduce hard or electronic copies of it; (b) include such copies in the archives and digital repositories of the University; and (c) make freely available such copies to third parties for research or educational purposes
after :**One ---- year from the date of submission of my thesis, dissertation, or project.**
Two ---- years from the date of submission of my thesis, dissertation, or project.
Three ---- years from the date of submission of my thesis, dissertation, or project.

Farah Tohme 10-05-2017

Signature Date

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my advisor Dr. Nisreen Salti for the continuous support throughout the writing of my thesis, for her patience, motivation, enthusiasm, and immense knowledge. I could not have imagined having a better advisor and mentor for my Master's thesis.

I would like to thank the rest of my thesis committee: Dr. Pierre Mouganie and Dr. Serena Canaan, for their insightful comments.

Last but not the least, I would like to thank my family and my friends for their constant emotional support throughout the writing of my thesis.

The data used in this publication come from Young Lives, a 15-year survey investigating the changing nature of childhood poverty in Ethiopia, India (Andhra Pradesh), Peru and Vietnam, based at the University of Oxford (www.younglives.org.uk). Young Lives is core funded by the UK Department for International Development (DFID). The views expressed here are those of the authors. They are not necessarily those of the Young Lives project, the University of Oxford, DFID or other funders.

ABSTRACT OF THE THESIS OF

Farah Radwan Tohme for Master of Economics
Major: Economics

In 2005, Juntos the Peruvian conditional cash program was implemented by Alejandro Toledo's Government and managed by the Ministry of Development and Social Inclusion. Juntos' goal is to develop human capital and protecting children who continue to live in extreme poverty by decreasing inter-generational poverty.

This paper examines the effect of the conditional cash transfer program (Juntos) in Peru. Since the program was implemented in 2005, the use of the young lives dataset would be an optimal choice to examine the effects of the program. The effect of Juntos on the health and education of children in Peru will be evaluated using the longitudinal aspect of the young lives data. Human capital gains are likely to have long-term effects on the economic wellbeing of children later in life. The findings of this paper would be of relevance to other conditions cash transfer programs. The difference in difference method was used, in addition to the propensity score matching to select the control and treatment group.

The results showed that when the beneficiary has had Juntos for one round, the D-I-D estimator on health indicators are insignificant however its effects on the living conditions of the household and on school enrollment are significant. When the beneficiary receives Juntos for two consecutive rounds, health indicators are affected positively when looking at height however negatively on weight and BMI. In addition, the wealth index, housing quality and consumer durable index are affected negatively, lastly the enrollment and the time use of the child is not affected by juntos, even when it is for a long duration.

CONTENTS

TABLES

CHAPTER 1

INTRODUCTION

> The most comprehensive, long-term study of interventions that provided both child stimulation and food supplementation to stunted children aged 9–24 months in Jamaica showed an additive effect of the two interventions on cognitive development…" (Ruel, Alderman and Maternal and child nutrition study group, 2013). That's why early childhood interventions are very important in countries with high malnutrition rates.

Peru is believed to be one of the most unequal countries in Latin America (Jones, N., Vargas, R., & Villar, E. , 2007) as reflected by the Gini index rating of 44.7% (UNDP, 2013). In addition, more than 7 million people live (22.7% of the population) live in poverty (World Food Program,2014). Extreme poverty affects a lot of families in Peru, especially indigenous families and mostly in rural areas. Moreover, 2 out of every 3 children under 14 years in Peru live below the poverty line and do not have access to economic, social, physical environmental and political resources that are critical for their wellbeing and developing their potential (Jones, Vargas, & Villar 2007)) In 2015, Peru had a population of 31,376,670(World Bank) and a GDP of 189.111 Billion of Dollars (World Bank). According to the human development report published in 2015, the human development index of Peru was 0.740; it is ranked 84 of 188 countries. Furthermore, the expected years of schooling are 13.1 years and the adult literacy rate is 93.8%. Moderate poverty ($4 a day) fell from 45.5% in 2005 to 19.3% in 2015. Extreme poverty ($2.5 a day) declined from 27.6% to 9%.

Table 1.1. Latin American countries development indicators

	GDP per capita($)	HDI	GINI coefficient	Unemployment
Peru	6,027.1	0.740	48.1	4.9
Argentina	13,467.4	0.827	44.5	6.6
Brazil	8,677.8	0.754	54.7	11.5
Chile	13,416.2	0.847	52.1	6.6
Colombia	6,056.1	0.727	55.9	9.9
Ecuador	6,205.1	0.739	49.3	5.4
Venezuela	/	0.767	44.8	6.9
Uruguay	15,573.9	0.795	45.3	8.2
World Average	10,098.227	0.717	/	5.7

Source: GDP per capia: World Bank, 2015
HDI: UNDP, 2015.
Gini Coefficient: UNDP, 2016.
Unemployment: World Bank, 2016.

Peru has one of the lowest GDP per capita in Latin America. Concerning its HDI, it is also one of the lowest in Latin America. However its GINI coefficient is not considered very low when it is compared to its neighbors. Last but not least, it has one of the lowest unemployment rate in Latin America. So the problem of Peru are in the GDP per capita and HDI.

As mentioned previously, Peru suffers from rural poverty that is characterized by high rates of illiteracy especially among women, a lack of basic needs in the rural areas, ineffective health services and poor infrastructures (IFAD).

Furthermore, Peru suffers from the problem of under nutrition of its children, 30% of its children under the age of 5 suffer from stunting and 18% are underweight (World Bank). And the consequences of this problem affect the health of the children and their economic outcome in the future.

On the other side, Peru's economy has been growing fast during the past decade with an average growth rate of 5.9% and an average inflation of 2.9%. In 2016, the economy grew at 3.9% because of a peak in mining production.

Peru began Juntos, a conditional cash transfer program in order to decrease poverty in 2005, and by 2011 it was covering approximately 500,000 households. The program provides 100 Soles (approximately $30) per month to participant families. To be eligible, the family must have children under the age of 14, in addition to living in a community where at least one basic need (water, electricity, schools or health services) is unmet. The conditions for a household to qualify for the Juntos program are the following: completing civic identification documents for all household members, 85% school attendance by the children, completing vaccination and prenatal care checks, in addition to using chlorinated water and anti-parasite medication. An interesting approach followed by the Juntos program is that the Cash is given to mothers.

The importance of the Juntos program lies in being one of the means to achieve the sustainable development goals. The Juntos program implemented in Peru plays a major role in achieving a number of the sustainable development goals. The first goal targets are eradicating extreme poverty, reducing at least by half the proportion of men, women and children living in poverty. The second goal is to end hunger. The third goal is ensuring healthy lives and promoting well-being for all at all ages. The fourth goal is ensuring inclusive and equitable quality education. Reduce inequality within and among countries.

The debate about the effectiveness of the Juntos program is still ongoing, the findings of this paper will be a good indicator on the effectiveness of Juntos, and consequently will help policymakers in deciding on the continuity such a program.

Throughout this paper I will look at the effect of the Juntos program, by comparing the consumption dynamics, the health, the education and the hours spent on different activities during the day by the beneficiaries of this program to the non-beneficiaries. For example, seeing a move from paid activities to more hours spent in schools would be one of the ways to show the success of this program. In addition, I am going to look at some points that were not looked at before, like consumption and hours spent on different activities during the day. Lastly, by looking at several domains (health, education, consumption…), I will be able to conclude where the program has had the most effect.

Concerning the outline of the paper the next section is going to describe the Juntos program and in section 3 other conditional cash programs are presented. Section 4 reviews the literature. In Section 5, the data are presented in detail and the econometrics methodology is explained. Section 6 contains the results and discussions. And finally section 7 is the conclusion with the policy implications.

A. Juntos

Conditional cash transfer (CCT) programs are programs that give out cash to families deemed eligible for support. They are used to reduce poverty and promote equity. These conditional cash programs are spread around the globe. Latin American countries were pioneers of CCT programs: Brazil's Bolsa Escola was one of the first conditional cash programs, it started in 1995 and its aim was to increase school attendance and decrease drop-out rates among children aged 7-14. Mexico's Progresa is another example of a CCT program that was introduced in Latin America. It was implemented in 1997. The beneficiaries of the Progresa program are children enrolled in

grades 3-9, they receive an amount of money every 2 months, and in addition they will receive an additional amount of money for school supplies.

In Peru the conditional cash program, Juntos, was introduced in 2005 by Alejandro Toledo's government and managed by the Ministry of Development and Social Inclusion. Juntos' goal is to develop human capital and protect children who continue to live in extreme poverty by decreasing inter-generational poverty. In addition, the Juntos program creates incentives for the parents to use health services and send their children to school.

At first, 70 districts became illegible for this conditional cash program, and now 1,142 districts out of a total of 1,943 in Peru are being covered. According to the ministry of development and social inclusion, 72% of the potential household beneficiaries are being covered (Sanchez et al., 2016)

What is unusual about this program is that, the cash transferred is given to the mother, and this aspect is only applied in the progresa conditional cash program in Mexico, in order to improve gender equality in families, but also because women are believed to be more responsible spenders. Akee, Copeland, Keeler, Angold, & Costello. (2008) evaluated the effect of parents' income on the children's outcome and they noticed that the effect on the children's outcome differs when the gender of the parent receiving the additional income differs. Mothers receiving an additional income have a positive and statistically significant effect on the total year of education and on the high school graduation rates for their children. However for the fathers, there are not a noticeable impact when they receive additional Income. On the same page, Duflo(2003) noticed that grandmothers have more incentives than the grandfathers to

invest in their grandchildren. Hence when having the money, women are more likely to spend on their children.

Furthermore, Juntos represents a change from other social programs implemented in Peru because the selection of the beneficiary is done at the household level. Second, this conditional cash program promotes health and education.

The first community selected to benefit from the Juntos program was the Chuschi district, this selection was symbolic. In 1980, internal conflicts began between the government of Peru and the armed wing of the communist party of Peru and the Tupac Amaru Revolutionary Movement. And the first attack happened in Chuschi, a district of mainly indigenous citizens of Quechua descent.

Beneficiaries of the Juntos program receive 100 soles ($30) a month. In 2010, the monthly transfer increased to 200 soles ($60), and the transfer became bi-monthly conditional on meeting a number of eligibility criteria. The first condition in order to become a beneficiary of the Juntos program is for the household to have children under the age of 14. The second condition is to complete civic identification documents for parents and children. The third condition is 85% school attendance for the children. The fourth condition is the completion of vaccination, pre and post-natal care checks for the mother and child. Finally, the household should take advantage of the National Nutritional Assistance program package for children under the age of 3, in addition to using chlorinated water and anti-parasite medication. And children under the age of 5 must have their growth monitored. Concerning the monitoring of the fulfilment of the conditions is monitored bi-monthly by the Juntos fieldworkers who are allowed to access the information from the relevant schools and health centers.

Regarding targeting the beneficiary, the first step was identifying the poorest district. Five criteria are used to identify poor districts: extreme poverty, lacking basic necessities, level of chronic infant malnutrition and a history of political violence. After targeting the poorest districts, the second step was targeting households who are the most vulnerable in these districts, these households' characteristics were considered: percentage of illiterate women in the household, percentage of children between ages 6 and 14 years attending school, access to industrial sources of fuel, number of appliances and access to public services (drinking water, electricity and sanitation). The last stage was the validation of the potential beneficiary by the community. This last step requires a get-together between the community and local authorities, in addition to representatives from the departments of health and education in Roundtables against Poverty. The goal is to identify the accuracy of the choices made in the first two steps.

Peru is composed of 25 regions: Amazonas, Ancash, Apurimac, Arequipa, Ayacucho, Cajmarca, Cusco, Huancavelica, Huanuco, Ica, Junin, La libertad, Lamabayeque, Lima, Loreto, Madre de Dios, Moquegua, Pasco, Piura, Puno, San Martin, Tacna, Tumbes and Ucayali.

The second-level administrative subdivisions of the country are provinces. There are 196 provinces. The third-level subdivisions of Peru are the districts, there is a total of 1,838 districts in Peru.

At the end of 2015, the JUNTOS Program incorporated 814,533 households in poverty and extreme poverty. During period the money was transferred to 769,158 households. In these households there are 1, 651,753 children, adolescents and young people up to 19 years of age and 13,235 pregnant women.

B. Other conditional cash programs

As mentioned previously, Juntos is not the first conditional cash program that was implemented. In this part I am going to give a brief description of several conditional cash programs implemented in other countries.

1. Oportunidades Mexico

Mexico's conditional cash trasnfer program, oportunidades (previously progresa) was launched in 1997 and has been the model for many other CCT programs implemented in Guatemala, Turkey, Indonesia and many other countries (Fernalrd, Gertler and Neufeld, 2009).

In order to maintain eligibility, children should attend school and family members should receive health cards. Hence this program targets the whole household and not just the children in the household. Similar to Juntos, the cash payments is given for the mothers.

Concerning the targeting mechanism, there is a two stage targeting strategy. The first stage is to target the poorest locations, and the second stage is to target eligible households within the localities selected in the first stage (Azevedo,, 2013) .

2. Colombia Familias en accion

Familias en Accion was founded in 2001.

The program is intended to be a complement for the income of the poor families with children under the age of 18, and to work as the main axis of the Juntos strategy. Juntos is the Colombian social protection network for overcoming extreme poverty.

This program targets the whole family and not just the children of a certain age in the family. Eligible families must be displaced, or from the indigenous population in Colombia. In addition it should be resident in the municipalities selected as eligible for the program, one of its member should be a child under the age of 18 (Soares and Silva, 2010).

3. Bolsa Familia: Brazil

The conditional cash transfer program in Brazil was implemented in 2001, for children between the ages of 6 and 15 currently enrolled at school. In order to determine the eligibility for the program, Bolsa familia uses self-reported income unlike most of the CCT, which causes a highest turnover of beneficiaries among CT programs. The conditions for Bolsa Familia are similar to other CCT programs. Children between the ages of 6 and 15 should have an attendance rate of 85%, and children between the ages of 16 and 17 are required to have 75% attendance rate. Concerning health, weight monitoring is required for the beneficiaries below the age of 7. And for pregnant women, prenatal care and postnatal care are required.

According to the law and decrees that introduced this program, its objectives were the following: promote access to the network of public services, fight hunger and promote food and nutritional security and fight poverty.

The maximum amount that a family can receive from this program is R200($62.54) and the minimum amount is R12($3.75) (Soars and Silva, 2010).

4. Pantawid Pamilyang Pilipino Program (4Ps): Philippines

Beneficiaries are selected from the poorest municipalities; families are interviewed and assessed for eligibility.

The 4Ps program has two objectives: the first one is the social assistance to the poor by providing cash which will achieve short-term poverty alleviation, and the second objective is social development, by breaking intergenerational poverty by the investment in human capital.

4Ps offers 500 Pesos ($26) per month for health and nutritional expenses, in addition to 30($1.5) pesos per month for 10 months per school year for each child in the household, for up to three children per household. The following conditions should be met: prenatal and post natal health care for pregnant women, parents must attend family development sessions, children between the ages of 0 and 5 should receive regular health checkups and the required vaccines, children between the ages of 3 and 5 must attend daycare or preschool with a 85% attendance, older children must attend elementary or high school with the same attendance rate, and finally children between the ages of 6 and 14 should receive de-worming pills twice a year. The maximum duration for being in the 4Ps program is five years (Reyes and Tabya, 2012).

5. Red de Proteccion Social: Nicaragua

In 2000, Red de Proteccion Social (RPS) was launched in Nicaragua.

The conditional cash transfer program in Nicaragua lasted only six years and covered 30,000 poor rural families. Like the CCT in Mexico and in Peru, the cash transfer was given to the mother or to the female care-giver in the household. The cash transfer was divided into two components, the food security transfer that was given to

all households and the second transfer was a school attendance transfer that was transferred only to families with children between the ages of 7 to 13 (Barham, Macours and Maluccio, 2011).

CHAPTER 2

LITERATURE REVIEW

A. Young Lives Dataset

A lot of papers were written using the young lives database about poverty and inequality, nutrition, health and wellbeing, education, gender, adolescence and youth, and child protection.

Using the dataset of young lives collected in Ethiopia, Woldehanna and Araya (2016) look at the major obstacles in accessing education, taking into consideration socio-economic backgrounds. The authors looked at each age group: early childhood, middle childhood, adolescence and early adulthood and find that the education sector in Ethiopia resembles a pyramid since the degree of access to education differs dramatically from one age group to another: 9 out of 10 children of appropriate age are enrolled in primary education, however 2 out of 10 are enrolled in secondary education, and only 1 out of 10 is enrolled at a university. Preschool attendance is low, however it is noticeable that there is improvement in preschool attendance for the younger cohort because of a new policy implemented by the Ethiopian government in 2009 that encourage preschool attendance. In addition, the majority of children who are attending preschools live in urban areas and very few children living in rural areas attend preschools. The gap between the urban population and the rural population is also present for middle childhood especially in their reading and mathematics scores. Urban children in Ethiopia do much better in their reading and math scores than rural children, and the difference is very small between males and females. Furthermore, children from the top wealth quintile do better than children from the lowest wealth quintile. For

adolescents, more specifically for students over the age of 15, the dropout rate for rural children reaches 70.69% and for urban children 57.69%. These numbers are alarming because they show that the majority of children above the age of 15 do not continue their education. When getting to the early adulthood phase, the same problems continue. A gap between the urban and rural population is still present, in addition to a high percentage of dropout. At the end of the paper, the authors make a number of recommendations to the Ethiopian government. First there should be a resource reallocation in order to improve the equity in the distribution of benefits from public education spending. Second, the government should create awareness on the importance of education for parents and families in order to decrease the rate of dropout. Third, schools should monitor the teachers in order to make sure that they are doing their jobs properly. Lastly, the insurance that every school has the minimum resources and infrastructure (electricity, water, and sanitation), will have a positive impact on students and their educational achievements.

The young lives dataset for Ethiopia was also used to examine the impact of early life rainfall shocks on education (Ginnasi, 2016). The results showed that early life rainfall has a statistically significant negative effect on employment outcomes several years later, educational attainment has a significant negative effect on being involved in employment at the age of 19. Additionally, rainfall shocks have a negative effect on hours of work and positive effect on hours of study at the age of 12. Hence, rainfall shocks has an impact on time allocation.

In Ethiopia two in every five girls are married before their 18th birthday and nearly one in five girls is married before the age of 15 (Girls Not Brides,2015). The young lives dataset in Ethiopia was used to investigate the background of children who

enter into early marriage (Pankhurst et al., 2016). According to this paper, early marriage is a female and rural phenomenon. In addition, girls who get married early have parents who have lower educational attainment. On the other hand, these girls also come from households in the lowest percentile of household wealth. Last but not least, a great numbers of the girls who marry early have experienced parental death.

Concerning Peru, the young lives dataset was used in many papers. It was used to predict risky behavior committed by children in Peru such as drinking, violent and criminal behavior, and drug consumption (Favara et al. 2017). The characteristics that can predict risky behavior are gender, age, self-esteem and whether the child comes from a single-parent household or not. Regarding gender, males are more likely to engage in risky behavior. Furthermore, moving from the age of 18 to 19 increases the risk of risky behavior by 10%. An increase in educational achievement and self-esteem reduce the risk of engaging in risky behavior. Lastly, family structure can be a significant predictor of risky behavior, children with more siblings and children of single parents are likelier to engage in risky behavior.

Geogriadis (2017) investigated in his working paper the impact of nutrition on cognitive achievement in early adolescence at different periods of life using the young lives data set collected in Ethiopia, India, Peru and Vietnam. In this paper, 2SLS estimation is used and weather shocks are the instrument. For the case of Ethiopia the instruments used are temperature shocks for round one, rainfall shocks for rounds 2 and 3. In India, rainfall shocks are used for round one, temperature shocks for rounds 2 and 3. In Peru rainfall shocks are used in rounds 1 and 3, and temperature shocks in round 2. In Vietnam temperature shocks are used in rounds 1 and 3, and rainfall in round 2. The findings suggest that under-nutrition has negative effects on the growth and cognitive

development of the child however the problems caused by under-nutrition are reversible.

The young lives dataset is used in order to evaluate the effect of sports on achieving the millennium development goals in Peru (Pawlowski et al., 2016). The authors find that group sports have a positive effect on children's health and social capital however the effects on well-being and human capital formation are statistically insignificant. Carrillo-Larco et al. (2016) estimate the incidence of child overweight and obesity using the children's socioeconomic background for Peruvian and Vietnamese children. The main finding is that the probability of children being overweight or obese is higher among wealthier households. And socioeconomic status has a larger effect when children are older.

Inequality in Peru is present between indigenous and non-indigenous people in a lot of domains; however Pasquier-Doumer et al. (2015) measure the aspiration gap between indigenous and non-indigenous children using the YL dataset. The results show that being indigenous has a significant negative effect on the aspiration level of children at the age of 8. However the effect of the ethnic background of the child disappears at the age of 12, after which aspiration level is not lower with indigenous children.

Stunting in children has been one of the major problems in Peru. In 2000, one in three Peruvian children under the age of five suffered from chronic malnutrition (Marini., 2016). The effects of this problem are a greater likelihood of illness, a greater likelihood of later entry into school for children less than five years old, and in the future, poverty and low work capacity. The stunting in children is mainly present in low-income groups more than in high-income groups. So the stunting rate is related to

the economic background of the family. Also, females are less likely to be stunted compared to males. In addition, children with low birth weight are more likely to be stunted (Vizcarra et al., 2016).

B. Conditional cash programs

Since conditional cash programs are spread worldwide, a lot of papers evaluate their effects. Behrman et al. looked at the impact of the Mexican Oportunidades (formerly called progresa) conditional cash transfer program on urban children. 30 million children have participated in this program, and they received between$35 and $40 monthly. The paper evaluates the effect of the Oportunidades program on the schooling and working behavior of the youth. The difference-in-differences method was used, the treatment groups were groups who were eligible and who participated in the program, and the control group consisted of eligible households living in regions where the program was not implemented. Since the program selected beneficiaries in a nonrandom manner, the difference-in-differences matching is used. Initially, the children in the control group have higher grades than the children in the treatment group. The results of this paper showed that the children in the treatment group can achieve an increase in school grades because they will be able to attend school earlier, in addition participants show a lower rate of grade repetition and dropping out. Furthermore, for boys aged 12 to 14 and participating in the program, their time allocated for working is reduced by 8% during their first year as a participant in the program, and then reduced by 12-14% in their second year in the program.

C. Juntos

Andersen et al. used the YL dataset to examine the effect of Juntos on child anthropometry, language development and school achievement among children aged 7 and 8. The results show that participating in Juntos increases height to age z scores for boys, while BMI for age z scores and overweight decline for girls participating in the conditional cash program. Lastly, the Juntos program does not have a statistically significant effect on the vocabulary or grade attainment for the beneficiary of the Juntos program.

The welfare impact of the Juntos program was examined using non-experimental evidence (Perova et al. 2009). Findings showed that the Juntos program has a significant impact on reducing the poverty gap and severity. In addition, the use of health services by children of women of childbearing age increases for several reasons one of them is the requirements of the Juntos program. Furthermore, food consumption increased, school registration increased but by a small amount, however there was no effect found on overall school attendance. So all in all, after two years of implementing Juntos, a number of key welfare indicators improved. In another paper published in 2012 (Perova et al., 2012), the young lives dataset was not used however ENAHO dataset, the national household survey, was used and an instrumental variable approach was used to identify the household that participated in the Juntos conditional cash program. The results of this paper suggest that the Juntos program caused an overall improvement for the beneficiaries however some improvements are too small to be picked up by the analysis.

D. The effect of under-nutrition

Conditional cash programs are used for several goals. One of the important goal is improve the children's nutrition and decrease under-nutrition. The children's early years have lifelong consequences on their lives. According to Barnett (1995), early childhood programs can produce short-term benefitis for children on IQ, nd long-term effects on school achievement, grade retention, placement in special education and social adjustment

More than 900 million people across the world suffer from under-nutrition, in addition 3.5 million children under the age of 5 are die because of under-nutrition (Matrins, Toledo Florencio, Grillo, Franco, Matrins, Clemente, Santos, Vieira and Sawaya, 2011). Under-nutrition during childhood can cause poor mental development, poor school achievement and behavioral abnormalities in children.

CHAPTER 3

DATA AND METHODOLOGY

A. Data description

Young Lives is an international study that follows 12,000 children over 15 years in four different countries: Peru, Ethiopia, Vietnam and India. The aim of this study is to examine childhood poverty in these countries. Two groups of children are being followed, the younger cohort born in 2001 and 2002 and the older cohort born in 1994 and 1995. This is longitudinal data because each household is followed over four rounds.

1. Round one

In Peru, the first round was collected from August 2002 until December 2002, 2,766 children participated in this round however after cleaning the data 2,701 are being taken into consideration in this paper. 51.09% are male and 48.91% are female. 69.86% of the children reside in urban areas and 30.14% live in rural areas. Of the 2,701 children who participated, 25.73% were from the older cohort and 74.27% were from the younger cohort.

28.22% of the children are stunted, 8.18% are severely stunted, 6.43% are underweight, 1.20% are severely underweight, 1.75% are thin and 0.69% are considered severely thin. 16.93% of the children have a problem in reading and 45.34% have a problem in writing.

Table 3.1. Summary statistics of Round one

Variable	Mean	Standard Deviation	Minimum	Maximum
Age (in months)	33.56	36.78	5.09	124.734
BMI	17.586	2.106	10.573	40.41
Age of household head	36.42	11.66	6	87
Wealth Index	0.43	0.23	0.001	0.91
Housing Quality Index	0.414	0.254	0	1
Access to Service Index	0.614	0.348	0	1
Consumer durable Index	0.282	0.216	0	1
Total area of land owned (hectares)	2.32	5.704	0	61
Household size	5.69	2.24		18
Caregiver's age	29.06	8.09	14	73
Child Weight(kg)	12.87	6.78	4.2	40.65
Child height(cm)	83.54	21.33	51.5	141.4
Weight at birth	3200.17	508.96	1000	5200
Number of prenatal visits	6.75	2.97	1	30
Weight-for-age-z-score	-0.275	1.15	-5.54	5.43
Height-for-age-z-score	-1.32	1.272	-9.5	8.94
Bmi-for-age-z-score	0.717	1.231	-4.95	12.85
Father's age	32.64	8.24	17	66

Source: Young lives dataset

47.28% of the households did not have access to water. 21.77% did not have access to sanitation. 32.7% did not have access to electricity. 52.30% did not have access to adequate fuels for cooking.

12.86% of the children who participated in this study are considered worse than their peers in term of health, 49.25% are considered the same and 37.88% are considered better.

85.86% of the fathers in the households are literate and 11.18% are illiterate. 75.67% of the mothers in the households are literate and 21.96% are illiterate.

2. Round two

The second two was collected from October 2006 to August 2007.

70.80% of the children live in urban neighborhoods and 29.20 live in rural neighborhoods.

88.13% of the fathers are literate and 77.45% of the mothers are literate.

37.55% of the households do not have access to safe drinking water, 14.54% do not have access to sanitation, 23.01% do not have access to electricity and 48.98% do not have access to adequate fuels for cooking.

Table 3.2. Summary statistics of Round two

Variable	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Age (in months)	85.77	37.22	53.03	180.82
BMI	17.11	2.48	10.15	36.23
Age of household head	39.81	11.26	1	92
Wealth Index	0.478	0.229	0.0001	0.92
Housing Quality Index	0.888	0.244	0	0.786
Access to Service Index	0.687	0.319	0	1
Consumer durable Index	0.358	0.235	0	1
Total area of land owned (hectares)	23.627	709.296	0	35000.79
Monthly food expend	433.125	263.475	0	6124
Monthly nonfood expend	352.803	597.599	0	17361.63
Household size				
Caregiver’s age	34.04	8.66	15	77

Child Weight(kg)	23.23	10.42	11.1	72
Child height(cm)	113.815	17.92	61.2	173
Weight-for-age-z-score	-0.537	1.02	-4.09	3.79
Height-for-age-z-score	-1.54	1.15	-9.95	4.5
Bmi-for-age-z-score	0.581	1.04	-5.16	975
Father's age	36.98	8.31	21	70
Mother's age	33.14	7.44	18	59
Travel time to school	14.15	13.38	0	130
Hours of sleep	9.89	1.192	0	15
Hours spent in caring for hh members	0.41	0.922	0	10
Hours spent in hh chore	0.63	0.701	0	8
Hours spent in paid act.	0.023	0.322	0	10
Hours spent at school	4.10	1.87	0	11
Hours spent studying	1.38	0.922	0	6
Hours spent playing	3.621	2.11	0	15

Source: Young lives dataset

32.71% of the children are stunted, 8.38% are severally stunted and 5.58% are underweight.

Concerning the health of the children compared to their peers, 60.74% are considered as healthy as their peers, 32.15% are considered better and 7.11% are considered worse.

3. Round three

The third round was collected from July 2009 to March 2010.

87.06% of the fathers are literate and 76.33% of the mothers are literate.

18.63% of the households do not have access to safe drinking water, 8.59% do not have access to sanitation, 12.84% do not have access to electricity and 44.88% do not have access to adequate fuels for cooking.

22.03% of the children are stunted, 4.34% are severally stunted and 5.73% are underweight.

Concerning the health of the children compared to their peers, 48.35% are considered as healthy as their peers, 47.08% are considered better and 4.57% are considered worse.

Table 3.3. Summary statistics of Round three

Variable	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Age (in months)	117.0495	36.85	85.57	207.68
BMI	17.96	3.08	10.20	34.10
Age of household head	41.609	10.947	2	85
Wealth Index	0.55	0.204	0.030	0.93
Housing Quality Index	0.438	0.242	0.003	1
Access to Service Index	0.787	0.249	0	1
Consumer durable Index	0.432	0.229	0	1
Total area of land owned (hectares)	/	/	/	/
Monthly food expend	547.736	303.395	0	3710.2
Monthly nonfood expend	439.032	617.851	0	15681.17
Household size	5.41	1.89	1	17
Caregiver’s age	36.71	8.84	14	81
Child Weight(kg)	31.12	12.91	12.5	92
Child height(cm)	128.807	16.462	81	180
Weight-for-age-z-score	-0.341	1.198	-4.7	5.56

Height-for-age-z-score	-1.246	1.03	-7.64	3.33
Bmi-for-age-z-score	0.45	1.04	-4.66	6.29
Father's age	39.65	8.25	23	80
Mother's age	35.82	7.47	21	61
Travel time to school	14.04	12.536	1	120
Hours of sleep	9.44	1.08	0	13
Hours spent in caring for hh members	0.55	0.99	0	11
Hours spent in hh chore	1.01	0.85	0	15
Hours spent in paid act.	0.11	0..901	0	13
Hours spent at school	5.954	1.34	0	11
Hours spent studying	1.91	0.92	0	8
Hours spent playing	3.93	1.70	0	14

Source: Young lives dataset

4. Round four

The third round was collected from June 2013 to March 2015.

87.61% of the fathers are literate and 77.30% of the mothers are literate.

18.80of the households do not have access to safe drinking water, 5.47% do not have access to sanitation, 5.08% do not have access to electricity and 32.96% do not have access to adequate fuels for cooking.

21.05% of the children are stunted, and 3.71% are severally stunted.

Concerning the health of the children compared to their peers, 55.97% are considered as healthy as their peers, 38% are considered better and 5.63% are considered worse.

Table 3.4. Summary statistics of Round four

Variable	Mean	Standard Deviation	Minimum	Maximum
Age (in months)	163.586	36.39	135	272
BMI	20.599	3.73	0.714	45.81
Age of household head	43.43	11.23	18	88
Wealth Index	0.602	0.188	0	0.953
Housing Quality Index	0.481	0.252	0	1
Access to Service Index	0.844	0.215	0	1
Consumer durable Index	0.481	0.213	0	1
Total area of land owned (hectares)	6.38	162.2802	0	5000.012
Monthly food expend	672.406	320.501	0	2675.6
Monthly nonfood expend	804.124	1296.6	0	31772
Household size	5.09	1.91	1	18
Caregiver's age	39.04	8.39	18	79
Child Weight(kg)	45.07	12.84	17.8	118.9
Child height(cm)	146.79	16.04	96	745.3
Weight-for-age-z-score	/	/	/	/
Height-for-age-z-score	-1.107	2.186	-7.82	88.94
Bmi-for-age-z-score	0.525	1.09	-13.25	4.43
Father's age	43.46	8.20	27	73
Mother's age	39.48	7.37	25	65
Travel time to school	20.72	26.63	0	300
Hours of sleep	9.07	1.205	4	15
Hours spent in caring for hh members	0.838	1.55	0	19
Hours spent in hh chore	1.21	0.99	0	12
Hours spent in paid act.	0.813	2.53	0	16
Hours spent at school	5.47	2.27	0	15
Hours spent studying	1.88	1.21	0	12
Hours spent playing	3.71	1.63	0	14

Source: Young lives dataset

B. Empirical strategy and econometric methods

The method that is used in this paper is the difference-in-differences matching. Concerning the selection of the treatment group it was the household/children who had Juntos in round 3 or round 4. However if the household had had Juntos in round 3 but not in round 4, this household is deleted from the dataset because it means that they did not follow the rules that should be followed to stay in the Juntos program, of that no child in the household are in the age range required to be in Juntos anymore. Two treatment groups were created, households/children who received Juntos in round 3 and 4 and households who received Juntos in Round 4 only and not in round 3.

For the selection of the control group, like in the case of the treatment groups, I created several control groups. The first control group is the children who were eligible for juntos in round 3. I tested the eligibility by keeping children who are under 14 and have more than one basic need that is unmet. The second control group is for children who have at least one basic need unmet but they are above the age of 14. The other two groups were also generated for the fourth round.

And the following are the means and standard deviations of each treatment and control group:

Table 3.5. Summary statistics of treatment group one

Treatment group one				
	Round One	Round Two	Round 3	In Round 4
Average Age(months)	19.48	68.68	102.91	150.07
Standard deviation age	23.94	23.97	23.96	22.99
Average BMI	17.47	16.49	16.57	18.26
Standard deviation BMI	2.07	1.74	1.909	2.42
Average wealth index	0.211	0.243	0.339	0.391
SD wealth index	0.1159	0.109	0.1107	0.109
Average housing quality ind	0.237	0.215	0.249	0.257
SD housing quality index	0.129	0.116	0.102	0.112
Average foodexp	/	346.75	465.33	652.01
SD foodexp	/	365.149	182.514	297.05
Average age of fathers	32.74	36.54	39.204	43.45
SD of age of fathers	8.64	8.56	8.422	8.47
Average age of mothers	28.6	32.93	35.826	39.804
SD age of mothers	7.737	7.706	7.714	7.728
Average of household size	6.023	6.267	6.213	5.819
SD of household size	2.237	1.998	1.88	1.826

Source: Young lives dataset

Table 3.6. Summary statistics of treatment group two

Treatment group two				
	Round One	Round Two	Round 3	In Round 4
Average Age(months)	20.71	69.621	104.182	151.56
Standard deviation age	25.701	25.44	25.73	25.28
Average BMI	17.4518	16.53	16.594	18.45
Standard deviation BMI	2.230	1.79	1.895	2.43
Average wealth index	0.222	0.253	0.349	0.397
SD wealth index	0.122	0.115	0.116	0.115
Average housing quality ind	0.239	0.2182	0.253	0.264
SD housing quality index	0.136	0.129	0.124	0.135
Average foodexp	/	340.005	454.121	620.85
SD foodexp	/	305.636	190.3442	294.95
Average age of fathers	32.60404	36.46	39.286	43.409
SD of age of fathers	8.533	8.49	8.314	8.250
Average age of mothers	28.28	32.65	35.558	39.58
SD age of mothers	7.62	7.59	7.634	7.597
Average of household size	6.152	6.16	6.022	5.67
SD of household size	2.407	2.075	1.834	1.786

Source: Young lives dataset

Table 3.7. Summary statistics of control group one

Control group one					
	Round One	Round Two	Round 3	In Round 4	
				Yes Juntos	No juntos
Average Age(months)	12.25	63.35	95.707	143.06	143.40
Standard deviation age	4.44	5.189	4.45	3.81	4.789
Average BMI	17.70	16.23	16.47	18.17	19.23
Standard deviation BMI	2.08	1.66	1.898	1.925	3.018
Average wealth index	0.324	0.364	0.424	0.403	0.553
SD wealth index	0.195	0.189	0.157	0.124	0.175
Average housing quality ind	0.321	0.294	0.335	0.271	0.418
SD housing quality index	0.209	0.205	0.210	0.169	0.235
Average foodexp	/	364.765	478.30	561.21	610.8806
SD foodexp	/	209.6328	267.163	283.680	313.6291
Av fage of the father	31.105	35.36	38.19	43.152	41.86
SD age of the father	7.8093	7.90	7.98	8.057	7.714
Av age of the mother	26.69	31.13	33.94	39.014	37.67
SD age of the mother	7.008	6.98	7.08	7.594	6.816
Av hh size	5.848	5.602	5.45	5.364	5.2862
SD hh size	2.33	2.093	1.78	1.591	1.775

Source: Young lives dataset

Table 3.8. Summary statistics of control group two

Control group two					
	Round One	Round Two	Round 3	In Round 4	
				Yes Juntos	No juntos
Average Age(months)	95.77	146.832	179.37	226.7273	227.60
Standard deviation age	4.232	5.35114	4.31	3.942	5.45
Average BMI	16.58799	18.85	21.02	22.35	23.872
Standard deviation BMI	1.782	3.00	3.09	2.337	1.93
Average wealth index	0.350	0.377	0.44	0.404	0.556
SD wealth index	0.192	0.1918	0.14	0.130	0.168
Average housing quality ind	0.3437	0.31175	0.35	0.276	0.464
SD housing quality index	0.227	0.20844	0.21	0.159	0.241
Average foodexp	/	393.606	501.69	/	/
SD foodexp	/	206.9729	244.76	/	/
Av father's age	38.181	42.445	44.815	45.11	49.178
SD father's age	8.506	8.583	8.296	6.479	8.69
Av mother's age	33.644	37.960	40.60	41.76	44.503
SD mother's age	6.836	6.900	6.93	5.73	6.915
Av hhsize	5.786	5.827	5.51	6	4.687
SD hhsize	1.830	2.039	1.84	2.267	2.147

Source: Young lives dataset

Table 3.9. Summary statistics of control group three

Control group three				
	Round One	Round Two	Round 3	In Round 4
Average Age(months)	12.22	63.72	95.70	143.324
Standard deviation age	3.61	4.56	3.63	3.79
Average BMI	17.65	16.12	16.55	19.04
Standard deviation BMI	2.00	1.48	2.11	2.88
Average wealth index	0.33	0.389	0.46	0.482
SD wealth index	0.19	0.208	0.19	0.153
Average housing quality ind	0.341	0.337	0.375	0.386
SD housing quality index	0.206	0.215	0.221985	0.227
Average foodexp	/	372.26	485.71	606.8562
SD foodexp	/	209.126	265.372	3.16.9789
Av father	30.597	35.017	37.856	41.742
SD father	7.288	7.511	7.54	7.682
Av mother	26.184	30.654	33.551	37.524
SD mother	6.685	6.699	6.909	6.727
Av hhsize	5.440	5.581	5.534	5.316
SD hhsize	2.191	1.999	1.799	1.792

Source: Young lives dataset

Table 3.10. Summary statistics of control group four

Control group four				
	Round One	Round Two	Round 3	In Round 4
Average Age(months)	96.191	147.43	179.94	228.267
Standard deviation age	4.18	5.55	4.23	5.643
Average BMI	16.582	19.01	21.12	23.66
Standard deviation BMI	1.94	2.99	3.15	3.23
Average wealth index	0.354	0.38	0.49	0.49
SD wealth index	0.189	0.193	0.176	0.145
Average housing quality ind	0.349	0.321	0.397	0.44
SD housing quality index	0.213	0.209	0.22	0.239
Average foodexp	/	406.214	517.145	/
SD foodexp	/	192.067	236.63	/
Av father	38.983	43.032	45.666	49.737
SD father	8.907	8.896	9.040	9.166
Av mother	34.256	38.52	41.357	45.092
SD mother	7.159	7.0641	6.995	7.088
Av hhsize	5.776	5.813	5.55	4.452
SD hhsize	1.819	1.978	1.912	2.170

Source: Young lives dataset

In order to see the best combination between the treatment and control groups, I did the test for the equality of the means for each control group with each of the treatment groups, and through this test I noticed that the first control and third control are the best candidates for being the best control group. And these are their test for the equality of the mean:

Table 3.11. Test statistics for the equality of means test

	WI	HQ	HHS	WB	MothLit	Fathlit
C1 vs T1	13.82	8.9	-3.9	3.82	20.63	12.39
C1 vs T2	15.11	10.42	-4.65	4.2	17.43	10.04
C3 vs T1	14.67	11.67	-5.57	4.7	20.39	10.88
C3 vs T2	15.92	13.32	13.32	5.18	16.79	8.66

WI = wealth index
HQ= housing quality index
HHS = household size
WB= weight at birth
Mothlit = mother is literate
Fathlit = father is literate

The results show that the control and treatment groupscannot be used in the difference-in-differences regressions because they are significantly different from 0. And this is not a surprise because the selection of the participants in the Juntos program was not a randomized. Selection was based on several criteria.

That's why the propensity score matching was the optimal method in this case to choose the control group. In addition, in my case I know the majority of criteria that were used to select the beneficiary of this conditional cash program and I have the data for them.

The idea of propensity score matching is to compare individuals who based on observables have a very similar probability of receiving juntos program but one of them

received the treatment and the other did not. And then I want to look at the differences in the outcome of the following variables that is due to the treatment:

Table 3.12. Variables' name

BMI	Body mass index
WI	Wealth Index
HQ	Housing Quality Index
SV	Access to service index
CD	Consumer durable index
Ppvt	Ppvt raw score
Chheight	Child height(cm)
chweight	Child weight(kg)
Foodexp	Monthly food expenditure
nfoodexp	Monthly nonfood expenditure
enroll	Currently enrolled in school
Hsleep	Hours/day spent sleeping
Hcare	Hours/day spent in caring for hh members
Hchore	Hours/day spent in domestic tasks
Htask	Hours/day spent at school
Hwork	Hours/day spent studying outside school
Hschool	Hours/day spent in leisure in activities
Hstudy	Hours of study
Hplay	Hours of play

When using the propensity score matching (PSM), to do the selection I only used observations from round one. A dummy variable (treatment) showed if the child has received Juntos in round 3 and round 4 or only in round 4, treatment will give 1 in this case, if the child was never a beneficiary of the conditional cash program treatment will give 0.

Table 3.13. Probit Regression

Treatment	Coefficient	Standard Error	Z	P>z	[95% confidence interval]
Momlit	-.7159783	.0991855	-7.22	0.000	-.9103784 -.5215782
Toiletq	.8648167	.1360923	6.35	0.000	.5980807 1.131553
Drwaterq	.9821542	.1312305	7.48	0.000	.7249471 1.239361
Elecq	1.138219	.146704	7.76	0.000	.8506841 1.425753
Chldreldum3	-.3080216	.2647953	-1.16	0.245	-.8270108 .2109677
Chldreldum2	-.0336439	.1207707	-0.28	0.781	-.2703502 .2030625
Hhsize	.0393236	.0269363	1.46	0.144	-.0134705 .0921178
Wi	-11.102	.9230238	-12.03	0.000	-12.91109 -9.292906
Hq	2.941657	.4706831	6.25	0.000	2.019135 3.864179
Careage	.0572194	.0947048	0.60	0.546	-.1283986 .2428375
Headage	-.0072211	.010058	-0.72	0.473	-.0269344 .0124922
Agemon	-.0093766	.0015863	-5.91	0.000	-.0124858 -.0062675
dadage	-.0011394	.0128688	-0.09	0.929	-.0263616 .0240829
Momage	-.0562261	.0949146	-0.59	0.554	-.2422553 .1298031
timesch	.0088932	.0030727	2.89	0.004	.0028708 .0149157
_cons	1.612217	.3044313	5.30	0.000	1.015542 2.208891

Log likelihood = -518.6019

Number of obs = 1871

LR chi2(15) = 867.56

Prob > chi2 = 0.0000

Pseudo R2 = 0.4555

Before propensity score matching in round 2:

Treatment	Frequency	Percent	Cum.
0	1,955	80.32	80.32
1	479	19.68	100
Total	2,434	100	

After the propensity score matching in round 2:

Treatment	Frequency	Percent	Cum.
0	190	32.99	32.99
1	386	67.01	100
Total	576	100	

Hence, out of 1955 candidates to be matched in the control group, 190 were chosen and out of 479 treatment group 386 were chosen.

The test of equality for the means is done again to see the compatibility of the control and treatment group:

Table 3.14. Test of equality for the means after Propensity Score Matching

Variable	Mean for control	Mean for treatment	Test of equality of means
WI	0.27	0.25	2.06
Elecq	0.53	0.53	0.3
Drwaterq	0.44	0.40	0.7
Toiletq	0.74	0.7	1
hhsize	6.08	6.30	-1.2
SV	0.44	0.41	1.44
BMI	16.64	16.53	0.6
HQ	0.23	0.21	1.67
CD	0.15	0.14	1.46
Chweight	19.87	17.70	4.02
Chheight	107.516	102.7856	4.09
Agemon	75.55	69.70	2.39
chhrel	1.53	1.51	0.3
stunt	0.47	0.61	-3.18
Cladder	6.19	5.8	0.67
nfoodexp	166.46	137.013	1.54
foodexp	343.3	351.83	-0.31
enrol	0.16	0.11	0.16

After having the control and treatment groups ready, two scenarios were taken into consideration when doing the difference in differences regressions. The first scenario used round two as the pre-treatment round, and round 3 as the post treatment round. The second Scenario used round two as the pre-treatment round, and round 4 as the post treatment round. The control group is the same in both rounds. However in the third round, the household examined received Juntos for the first time in round 3, and that's for the first scenario. But in the second scenario, household who got Juntos in

round 4 for the second round in a row are used in the regressions, hence households getting Juntos for the first time in round 4 were not used. The goal of these two scenarios is to look at the difference when being exposed to Juntos for a short duration versus when exposed to Juntos for a longer duration.

The following equation is used for the difference in difference regression for the two scenarios:

$$Y = \delta Post + \beta treatment + \beta posttreat + \beta x + \in$$

Y represent the variable that got affected by Juntos.

Post is a dummy variable it is 0 when it is round 2, and 1 when it is round 3 and round 4.

Treatment is a dummy variable: 1 for a juntos beneficiary and 0 for a non juntos beneficiary.

Posttreat is the variable that shows the effect of the juntos program on the y variable while taking into consideration the rounds.

X is an independent variable to control Y, it might be more than one variable.

CHAPTER 4

RESULTS AND DISCUSSION

The following table contains the result of the difference in differences regressions for the first scenario: round two and round three. And following the table, the detailed regression are going to be shown only for significant variables.

Table 4.1. Difference in difference estimators source

Outcome	D-I-D Estimator	Cont/Treat	Adjust-R^2
BMI	-0.333(0.235)	R2/R3	0.03
Weight of Child	-0.475(0.139)	R2/R3	0.78
Height of Child	0.8988(0.165)	R2/R3	0.86
Wealth Index*	-.0113(0.065)	R2/R3	0.90
Housing quality ind.***	-0.041(0.006)	R2/R3	0.46
Consumer durable ind.***	-0.042(0.001)	R2/R3	0.59
Service Index***	0 .0413(0.006)	R2/R3	0.83
PPVT Score	-2.7672(0.280)	R2/R3	0.45
Enrollment **	0 .0624(0.032)	R2/R3	0.82
Hours spent in domestic tasks	0 .0808(0.554)	R2/R3	0.16
Hours spent in caring for hh members	0 .0206(0.874)	R2/R3	0.18
Hours spent in hh chores	0.0499(0.570)	R2/R3	0.29
Hours spent playing	0.1117(0.580)	R2/R3	0.48
Hours spent in school*	-0.3280(0.065)	R2/R3	0.66
Hours spent sleeping	0.05211(0.732)	R2/R3	0.16
Hours spent studying	-0.0434(0.593)	R2/R3	0.45
Hours spent in paid activity	-0.0291(0.160)	R2/R3	0.04
Food Expenditure	-1.150(0.976)	R2/R3	0.08

** Significant on 10%*
*** Significant on 5%*
**** Significant on 1%*
Source: young lives dataset

The detailed regression of each significant coefficient is in the appendix at the end of the paper.

The following table represent the results of the difference in differences regressions that used round two as a pre-treatment and round four as a post-treatment. And after this table the difference in differences regressions of the significant variables are presented.

Table 4.2. Difference in difference estimators source

Outcome	D-I-D Estimator	Cont/Treat	Adjust-R^2
BMI* **	-1.13(0.002)	R2/R4	0.25
Weight of Child* **	-2.41(0.000)	R2/R4	0.89
Height of Child* **	2.05(0.008)	R2/R4	0.93
Wealth Index* **	-0.022(0.001)	R2/R4	0.91
Housing quality ind.* **	-0.0646(0.000)	R2/R4	0.50
Consumer durable ind.* **	-0.055(0.000)	R2/R4	0.71
Service Index* **	0.064(0.000)	R2/R4	0.83
Enrollment	0.04101(0.285)	R2/R4	0.722
Hours spent in domestic tasks	0.249(0.119)	R2/R4	0.14
Hours spent in caring for hh members	-0.0708(0.644)	R2/R4	0.24
Hours spent in hh chores	0.0154(0.676)	R2/R4	0.33
Hours spent playing	0.296(0.145)	R2/R4	0.46
Hours spent in school	-0.258(0.172)	R2/R4	0.65
Hours spent sleeping	-0.150(0.340)	R2/R4	0.244
Hours spent studying	0.07(0.448)	R2/R4	0.49
Hours spent in paid activity	0.138(0.208)	R2/R4	0.41
Food expenditure	133.3299(0.003)	R2/R4	0.266

** Significant on 10%*
*** Significant on 5%*
**** Significant on 1%*
Source: young lives dataset

The detailed regression of each significant coefficient is in the appendix at the end of the paper.

As seen by the results of the regressions. When the child gets juntos only for one round, the effect is only seen at the household level but not at the level of the child. However when the child/household receives Juntos for two rounds in a row, an effect is seen on the household but also on the child. Hence longer duration is needed for the conditional cash program to have an effect on the child. However in this case the effect is not positive, a decrease in the BMI and child weight is seen as a result of participation in Juntos. And a positive result is seen in the height of the child because an increase in the height is expected as a result of this program.

The results of this paper show a negative significant effect of Juntos on the wealth index, so in terms of wealth index, households are better off without Juntos. It is important to know that the wealth index is calculated using the household's ownership of selected assets and types of water access and sanitation facilities. The reason for the negative effect of Juntos on the wealth index is likely because in order for the household to stay a beneficiary of Juntos, their kids should enrolled in school and have an attendance rate of 85%, hence the cash given to families might not be enough to cover the school expenses, especially when there are a lot of children in the family so families may be forced to sell some of their belongings to send their children to school, or not buy new items for the household that can be counted in the wealth index. The same reasoning can be used for the reason of having a negative effect of Juntos on the consumer durable index.

The service index is affected positively by the Juntos program, this makes sense because the households have more money now, so they can afford services that they could not afford before.

Concerning food expenditure, juntos has a positive effect but only for the beneficiaries who are in the program for a long duration, people who are beneficiary of the Juntos program start to spend more on food.

The results of this paper points out to a negative significant effect of Juntos on BMI only when the child has been a beneficiary for a long duration. Hence participating in Juntos will not bring benefit to BMI of the child. The program tries to improve the health of the children through regular medical checkups and vaccine. The Juntos program affected the height of the children in a positive way which can be a great indicator of the child's future well- being.

Lastly, Juntos has a positive and significant effect on school enrollment, however this is only for new participants in program, and after some time as juntos beneficiaries, Juntos no longer affects school enrollment.

CHAPTER 5

CONCLUSION AND POLICY IMPLICATIONS

Junto, a conditional cash program in Peru was evaluated in this paper. More specifically the effects of the Juntos program on the following variables was evaluated: BMI, a wealth index, a housing quality index, a service index, a consumer durables index, school enrollment, child height, child weight, food expenditure and the allocation of activities by the child during the day. The findings of this paper showed gaps in the effect of the Juntos program, Juntos can have negative effects on some important determinants. However the program has also positive effects like increasing school enrollment, which can improve the life of the children in the future, and consequently decrease intergenerational poverty. With the investment of money done by the Peruvian government to implement such a program, small changes can be made to improve the effects of Juntos, and make the whole impact of this CCT program positive.

According to the results shown in this paper, the Juntos program was not able to improve BMI. And improving the BMI should be a very important goal for the Peruvian Children because Peru suffers from a high stunting rate, so improving the health of the children should be the top goal of the government. Giving money to the parents without informing them about healthy eating is useless so as mentioned earlier special sessions for parents will be beneficial to improve the results of the conditional cash program. In addition, the amount offered to the households might not be enough and it should be proportional to the size of the household. Hence a household with one child should not receive the same amount that a family with 5 children is going to receive.

Countries who are planning to implement a conditional cash program should take into consideration the household size, in addition to providing information sessions for the household members to arrive to the goal they would like to achieve.

If the goal of certain developing countries is improving human capital and increasing school enrollment in the short run, conditional cash transfers might be the optimal solution. In addition, other rules should be added to accommodate the goals and objectives that the government wishes to achieve. Concerning further research, taking into consideration the first round when selecting the treatment and control group would improve the selection and improve the control and treatment group and consequently it will improve our confidence in the results.

APPENDICES

APPENDIX I

SHORT TERM EFFECT OF JUNTOS

Difference in Difference Output for the Wealth Index:

```
  Source |       SS       df       MS              Number of obs =     853
-------------+------------------------------       F (31,   821) = 273.65
       Model | 15.5284994    31 .500919334         Prob > F      = 0.0000
    Residual | 1.50286522   821   .00183053        R-squared     = 0.9118
-------------+------------------------------       Adj R-squared = 0.9084
       Total | 17.0313646   852 .019989865         Root MSE      = .04278

------------------------------------------------------------------------------
          wi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          cd |   .3937778   .0134834    29.20   0.000     .3673118    .4202438
      hhsize |  -.0022755   .0008848    -2.57   0.010    -.0040122   -.0005388
       elecq |    .088859   .0035867    24.77   0.000     .0818189    .0958992
     toiletq |   .0852802   .0038303    22.26   0.000     .0777618    .0927986
    drwaterq |   .0860282   .0033243    25.88   0.000      .079503    .0925533
    cookingq |   .1033696   .0065901    15.69   0.000     .0904342     .116305
typesitedum1 |   .0164225   .0039332     4.18   0.000     .0087023    .0241428
  regiondum1 |  -.0140235   .0071696    -1.96   0.051    -.0280964    .0000493
  regiondum3 |  -.0164632   .0052963    -3.11   0.002     -.026859   -.0060673
  dadedudum1 |   .0087497   .0234778     0.37   0.709    -.0373338    .0548333
  dadedudum2 |   .0245314   .0237614     1.03   0.302    -.0221088    .0711717
  dadedudum3 |   .0311757   .0227954     1.37   0.172    -.0135684    .0759199
  dadedudum4 |    .020917   .0223342     0.94   0.349    -.0229219    .0647559
  dadedudum5 |   .0328137   .0227997     1.44   0.150    -.0119389    .0775663
  dadedudum6 |   .0240839   .0227328     1.06   0.290    -.0205373    .0687051
  dadedudum7 |   .0356613   .0220214     1.62   0.106    -.0075635     .078886
  dadedudum8 |   .0370945   .0227191     1.63   0.103    -.0074998    .0816889
  dadedudum9 |   .0344592   .0227968     1.51   0.131    -.0102878    .0792061
 dadedudum10 |   .0380976   .0225728     1.69   0.092    -.0062096    .0824047
 dadedudum11 |    .027081   .0242909     1.11   0.265    -.0205986    .0747605
 dadedudum12 |   .0413198   .0221303     1.87   0.062    -.0021189    .0847584
 dadedudum13 |   .0741754   .0279942     2.65   0.008     .0192267    .1291241
 dadedudum14 |   .0211565    .024076     0.88   0.380    -.0261012    .0684142
 dadedudum16 |   .0262248   .0281297     0.93   0.351    -.0289898    .0814393
 dadedudum17 |  -.0360928   .0482622    -0.75   0.455    -.1308246    .0586389
      momlit |    .001553    .003403     0.46   0.648    -.0051266    .0082326
      dadage |   .0001873   .0003028     0.62   0.536    -.0004071    .0007817
      momage |   3.41e-06   .0003381     0.01   0.992    -.0006602     .000667
        post |   .0124562   .0049812     2.50   0.013     .0026788    .0222335
   treatment |  -.0042615    .004854    -0.88   0.380    -.0137891    .0052662
   posttreat |  -.0113267   .0061312    -1.85   0.065    -.0233614    .0007079
       _cons |   .0349558   .0234879     1.49   0.137    -.0111476    .0810593
------------------------------------------------------------------------------
```

Table: Diff in diff regression for WI. Source: YL dataset

Difference in Difference: Housing Quality Index

```
   Source |       SS       df       MS              Number of obs =     853
-------------+------------------------------       F (28,   824) =   27.35
       Model |   8.6808929 28 .310031889            Prob > F      = 0.0000
    Residual | 9.34066668   824 .011335761          R-squared     = 0.4817
-------------+------------------------------        Adj R-squared = 0.4641
       Total | 18.0215596   852 .021152065          Root MSE      = .10647

------------------------------------------------------------------------------
          hq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          wi |   .8301717   .0420938    19.72   0.000      .747548    .9127953
          cd |   -.272102   .0401445    -6.78   0.000    -.3508994   -.1933046
      hhsize |  -.0031191   .0022025    -1.42   0.157    -.0074423     .001204
```

typesitedum1	.0106604	.0097223	1.10	0.273	-.008423	.0297438
regiondum1	-.0291421	.0177368	-1.64	0.101	-.0639566	.0056725
regiondum3	-.0235099	.0130132	-1.81	0.071	-.0490527	.002033
dadedudum1	.0132887	.0577906	0.23	0.818	-.1001454	.1267229
dadedudum2	.0317481	.0585113	0.54	0.588	-.0831007	.1465968
dadedudum3	.0536696	.055963	0.96	0.338	-.0561771	.1635164
dadedudum4	.0416274	.0548224	0.76	0.448	-.0659806	.1492353
dadedudum5	.0745817	.0559918	1.33	0.183	-.0353216	.184485
dadedudum6	.0497979	.0558315	0.89	0.373	-.0597909	.1593867
dadedudum7	.0777075	.0540918	1.44	0.151	-.0284664	.1838814
dadedudum8	.0776238	.0557451	1.39	0.164	-.0317952	.1870428
dadedudum9	.0691997	.0560721	1.23	0.218	-.0408613	.1792607
dadedudum10	.0761308	.0554049	1.37	0.170	-.0326205	.1848821
dadedudum11	.0711423	.0596655	1.19	0.233	-.0459721	.1882566
dadedudum12	.0801326	.0543902	1.47	0.141	-.026627	.1868922
dadedudum13	.188923	.0691682	2.73	0.006	.0531564	.3246896
dadedudum14	.0283075	.0595146	0.48	0.634	-.0885106	.1451256
dadedudum16	.0652587	.0695057	0.94	0.348	-.0711703	.2016877
dadedudum17	-.0910122	.1200542	-0.76	0.449	-.3266603	.1446358
momlit	.0055312	.008451	0.65	0.513	-.0110568	.0221193
dadage	.0009004	.0007502	1.20	0.230	-.0005722	.0023729
momage	-.0005247	.0008395	-0.62	0.532	-.0021724	.0011231
post	.0085154	.0122848	0.69	0.488	-.0155978	.0326286
treatment	-.0085885	.0120711	-0.71	0.477	-.0322821	.0151052
posttreat	-.0413488	.0149856	-2.76	0.006	-.0707633	-.0119344
_cons	-.0131499	.0579781	-0.23	0.821	-.1269521	.1006523

Table: Diff in diff regression for HQ. Source: YL dataset

Difference in Difference: Consumer Durable Index

Source	SS	df	MS	Number of obs =	853
				F (28, 824) =	45.28
Model	10.2513645	28	.36612016	Prob > F =	0.0000
Residual	6.66248499	824	.00808554	R-squared =	0.6061
				Adj R-squared =	0.5927
Total	16.9138495	852	.019851936	Root MSE =	.08992

cd	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
hq	-.1940842	.0286341	-6.78	0.000	-.2502886	-.1378797
wi	.7939379	.0330976	23.99	0.000	.7289724	.8589034
hhsize	-.0027448	.0018599	-1.48	0.140	-.0063956	.000906
typesitedum1	-.003777	.008216	-0.46	0.646	-.0199037	.0123497
regiondum1	.0120215	.0149984	0.80	0.423	-.0174181	.041461
regiondum3	.013044	.0110027	1.19	0.236	-.0085527	.0346406
dadedudum1	-.0632705	.0487593	-1.30	0.195	-.1589775	.0324366
dadedudum2	-.0501117	.0493941	-1.01	0.311	-.1470648	.0468415
dadedudum3	-.0565061	.0472493	-1.20	0.232	-.1492493	.0362371
dadedudum4	-.0335562	.0463021	-0.72	0.469	-.1244401	.0573277
dadedudum5	-.0363503	.0473222	-0.77	0.443	-.1292366	.056536
dadedudum6	-.0350825	.0471599	-0.74	0.457	-.1276501	.0574851
dadedudum7	-.030283	.0457286	-0.66	0.508	-.1200413	.0594753
dadedudum8	-.0188925	.0471307	-0.40	0.689	-.1114027	.0736178
dadedudum9	-.0183111	.0473956	-0.39	0.699	-.1113414	.0747191
dadedudum10	-.0226883	.0468395	-0.48	0.628	-.1146271	.0692505
dadedudum11	-.0075597	.0504337	-0.15	0.881	-.1065534	.091434
dadedudum12	-.0116794	.0459943	-0.25	0.800	-.1019592	.0786003
dadedudum13	.0152389	.058678	0.26	0.795	-.099937	.1304147
dadedudum14	-.0165367	.0502671	-0.33	0.742	-.1152033	.08213
dadedudum16	.0525464	.0587044	0.90	0.371	-.0626813	.1677741
dadedudum17	.1593116	.1012761	1.57	0.116	-.0394779	.358101
momlit	.0054312	.0071367	0.76	0.447	-.0085771	.0194395
dadage	.0006396	.0006338	1.01	0.313	-.0006044	.0018836
momage	.000537	.0007089	0.76	0.449	-.0008544	.0019285
post	.039593	.0102862	3.85	0.000	.0194027	.0597832
treatment	.0018331	.0101976	0.18	0.857	-.0181833	.0218496
posttreat	-.0423573	.0126286	-3.35	0.001	-.0671454	-.0175693
_cons	-.0220761	.0489613	-0.45	0.652	-.1181798	.0740275

Table: Diff in diff regression for CD. Source: YL dataset

Difference in Difference: Service Index

```
  Source |       SS       df       MS              Number of obs =     853
---------+------------------------------           F (28,   824) = 152.91
   Model | 48.5352129    28 1.73340046           Prob > F      = 0.0000
Residual | 9.34066635   824   .01133576           R-squared     = 0.8386
---------+------------------------------           Adj R-squared = 0.8331
   Total | 57.8758792   852 .067929436           Root MSE      = .10647

------------------------------------------------------------------------------
          sv |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          cd |   -.727898   .0401445   -18.13   0.000    -.8066955   -.6491006
          wi |   2.169828   .0420938    51.55   0.000     2.087205    2.252452
      hhsize |   .0031191   .0022025     1.42   0.157     -.001204    .0074423
typesitedum1 |  -.0106604   .0097223    -1.10   0.273    -.0297438     .008423
  regiondum1 |   .0291421   .0177368     1.64   0.101    -.0056725    .0639567
  regiondum3 |   .0235099   .0130132     1.81   0.071     -.002033    .0490527
  dadedudum1 |  -.0132887   .0577906    -0.23   0.818    -.1267229    .1001455
  dadedudum2 |   -.031748   .0585113    -0.54   0.588    -.1465968    .0831007
  dadedudum3 |  -.0536696    .055963    -0.96   0.338    -.1635164    .0561772
  dadedudum4 |  -.0416273   .0548224    -0.76   0.448    -.1492353    .0659806
  dadedudum5 |  -.0745817   .0559918    -1.33   0.183     -.184485    .0353216
  dadedudum6 |  -.0497978   .0558315    -0.89   0.373    -.1593866    .0597909
  dadedudum7 |  -.0777075   .0540918    -1.44   0.151    -.1838814    .0284664
  dadedudum8 |  -.0776237    .055745    -1.39   0.164    -.1870428    .0317953
  dadedudum9 |  -.0691997   .0560721    -1.23   0.218    -.1792606    .0408613
 dadedudum10 |  -.0761308   .0554049    -1.37   0.170    -.1848821    .0326205
 dadedudum11 |  -.0711422   .0596655    -1.19   0.233    -.1882566    .0459721
 dadedudum12 |  -.0801326   .0543902    -1.47   0.141    -.1868921     .026627
 dadedudum13 |   -.188923   .0691682    -2.73   0.006    -.3246896   -.0531564
 dadedudum14 |  -.0283075   .0595146    -0.48   0.634    -.1451255    .0885106
 dadedudum16 |  -.0652587   .0695057    -0.94   0.348    -.2016876    .0711703
 dadedudum17 |   .0910122   .1200542     0.76   0.449    -.1446359    .3266602
      momlit |  -.0055312    .008451    -0.65   0.513    -.0221193    .0110568
      dadage |  -.0009004   .0007502    -1.20   0.230    -.0023729    .0005722
      momage |   .0005247   .0008395     0.62   0.532    -.0011231    .0021724
        post |  -.0085154   .0122848    -0.69   0.488    -.0326286    .0155978
   treatment |   .0085885   .0120711     0.71   0.477    -.0151052    .0322821
   posttreat |   .0413488   .0149856     2.76   0.006     .0119344    .0707633
       _cons |   .0131498   .0579781     0.23   0.821    -.1006524     .126952
------------------------------------------------------------------------------
```

Table: Diff in diff regression for Service index. Source: YL dataset

Difference in Difference: Enrollment

```
   Source |       SS       df       MS              Number of obs =     847
---------+------------------------------           F( 28,   818) =  147.06
   Model |  175.614912    28  6.27196114           Prob > F      =  0.0000
Residual |  34.8880397   818  .042650415           R-squared     =  0.8343
---------+------------------------------           Adj R-squared =  0.8286
   Total |  210.502952   846  .248821456           Root MSE      =  .20652

------------------------------------------------------------------------------
       enrol |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          hq |   .0061458   .0660484     0.09   0.926    -.1234984      .13579
          wi |  -.0093751   .0762265    -0.12   0.902    -.1589977    .1402474
      hhsize |   .0019054   .0042987     0.44   0.658    -.0065324    .0103433
      agemon |   .0059224   .0002823    20.98   0.000     .0053683    .0064764
typesitedum1 |  -.0000947   .0190332    -0.00   0.996    -.0374543    .0372649
  regiondum1 |  -.0054448   .0347092    -0.16   0.875    -.0735745    .0626849
  regiondum3 |  -.0165294   .0254089    -0.65   0.516    -.0664038     .033345
  dadedudum1 |  -.1148513    .103282    -1.11   0.266    -.3175802    .0878776
  dadedudum7 |  -.0693017   .0947034    -0.73   0.465     -.255192    .1165885
  dadedudum8 |  -.0373377   .0982478    -0.38   0.704    -.2301852    .1555099
  dadedudum3 |  -.0448967   .0988236    -0.45   0.650    -.2388744     .149081
  dadedudum9 |  -.0893915   .0989547    -0.90   0.367    -.2836265    .1048435
  dadedudum2 |  -.0514597   .1038445    -0.50   0.620    -.2552928    .1523734
```

dadedudum4	-.0390187	.0962874	-0.41	0.685	-.2280182	.1499809
dadedudum5	-.0345083	.0988645	-0.35	0.727	-.2285664	.1595497
dadedudum6	-.0218275	.0984332	-0.22	0.825	-.2150389	.171384
dadedudum10	-.0462702	.0976089	-0.47	0.636	-.2378636	.1453231
dadedudum11	-.0837758	.1065816	-0.79	0.432	-.2929815	.1254299
dadedudum12	-.0783046	.0952479	-0.82	0.411	-.2652636	.1086545
dadedudum13	-.0786498	.127098	-0.62	0.536	-.3281265	.1708269
dadedudum14	-.0333057	.1055005	-0.32	0.752	-.2403893	.173778
dadedudum16	-.0425703	.1264168	-0.34	0.736	-.2907098	.2055692
momlit	.011096	.0165011	0.67	0.501	-.0212935	.0434856
dadage	-.0020145	.0014553	-1.38	0.167	-.004871	.0008421
momage	.0018942	.0016625	1.14	0.255	-.001369	.0051575
post	.613463	.0249904	24.55	0.000	.5644102	.6625158
treatment	-.0262553	.0235179	-1.12	0.265	-.0724178	.0199072
posttreat	.0624905	.0291193	2.15	0.032	.0053331	.1196479
_cons	-.2226856	.1038539	-2.14	0.032	-.426537	-.0188342

Table: Diff in diff regression for school enrollment. Source: YL dataset

Difference in Difference: Hours spent in School

Source	SS	df	MS		Number of obs	= 846
Model	2683.35311	37	72.5230571		F(37, 808)	= 46.30
Residual	1265.67408	808	1.56642831		Prob > F	= 0.0000
					R-squared	= 0.6795
					Adj R-squared	= 0.6648
Total	3949.02719	845	4.67340495		Root MSE	= 1.2516

hschool	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
hplay	-.3872543	.0278669	-13.90	0.000	-.4419543	-.3325544
hchore	-.2908248	.070557	-4.12	0.000	-.4293215	-.1523282
hcare	-.0471192	.0483077	-0.98	0.330	-.1419426	.0477043
hstudy	.466007	.0753631	6.18	0.000	.3180765	.6139376
htask	-.3107892	.0474696	-6.55	0.000	-.4039675	-.2176109
hsleep	-.0846254	.0411657	-2.06	0.040	-.1654296	-.0038211
hwork	-1.282606	.2982272	-4.30	0.000	-1.867998	-.6972149
enrol	1.868646	.2224145	8.40	0.000	1.432067	2.305224
sex	-.1508333	.0897746	-1.68	0.093	-.3270522	.0253856
agemon	-.0026025	.0023278	-1.12	0.264	-.0071717	.0019667
hq	-.2177232	.4027276	-0.54	0.589	-1.008239	.5727924
wi	.1676949	.4674226	0.36	0.720	-.7498109	1.085201
hhsize	-.0332529	.0267762	-1.24	0.215	-.0858119	.0193062
typesitedum1	-.1434699	.1176626	-1.22	0.223	-.3744302	.0874905
regiondum1	.171915	.2141896	0.80	0.422	-.2485187	.5923487
regiondum3	-.6128304	.156036	-3.93	0.000	-.9191142	-.3065466
dadedudum1	.912895	.6338161	1.44	0.150	-.3312253	2.157015
dadedudum7	.692353	.5804335	1.19	0.233	-.4469823	1.831688
dadedudum8	.8516637	.6015065	1.42	0.157	-.3290361	2.032363
dadedudum3	.9419365	.6048556	1.56	0.120	-.2453372	2.12921
dadedudum9	1.080422	.6079628	1.78	0.076	-.1129504	2.273795
dadedudum2	.8561398	.6336757	1.35	0.177	-.3877049	2.099985
dadedudum4	.8788867	.5897549	1.49	0.137	-.2787458	2.036519
dadedudum5	.6973921	.6056881	1.15	0.250	-.4915158	1.8863
dadedudum6	.5147233	.6040609	0.85	0.394	-.6709905	1.700437
dadedudum10	.7589813	.6005625	1.26	0.207	-.4198654	1.937828
dadedudum11	.5700382	.6514798	0.87	0.382	-.7087544	1.848831
dadedudum12	.7620446	.5850031	1.30	0.193	-.3862605	1.91035
dadedudum13	1.310816	.7805439	1.68	0.093	-.2213167	2.842949
dadedudum14	1.01523	.6479584	1.57	0.118	-.2566503	2.28711
dadedudum16	.8807567	.774162	1.14	0.256	-.6388492	2.400362
momlit	.0209767	.1010166	0.21	0.836	-.1773093	.2192627
dadage	.0012163	.0088575	0.14	0.891	-.0161701	.0186027
momage	-.0025679	.0102649	-0.25	0.803	-.0227168	.017581
post	1.200051	.2080219	5.77	0.000	.7917236	1.608378
treatment	.130882	.1440367	0.91	0.364	-.1518482	.4136123
posttreat	-.3280288	.1777769	-1.85	0.065	-.6769878	.0209302
_cons	5.241552	.8626943	6.08	0.000	3.548166	6.934939

Table: Diff in diff regression for hours spent in school Source: YL dataset

Difference in Difference: BMI

Source	SS	df	MS	Number of obs =	516
Model	775.884226	30	25.8628075	F(30, 485) =	6.77
Residual	1851.70242	485	3.81794313	Prob > F =	0.0000
Total	2627.58664	515	5.10210999	R-squared =	0.2953
				Adj R-squared =	0.2517
				Root MSE =	1.954

bmi	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
hhsize	-.0544289	.0516718	-1.05	0.293	-.1559571	.0470993
sex	.0423173	.1835882	0.23	0.818	-.3184091	.4030436
bwght	.0001784	.0001854	0.96	0.336	-.0001858	.0005426
agemon	-.0493469	.0219291	-2.25	0.025	-.0924346	-.0062592
wi	2.212617	.7745624	2.86	0.004	.6907052	3.73453
regiondum1	.831938	.4069116	2.04	0.041	.0324106	1.631465
regiondum2	-.0472748	.3182807	-0.15	0.882	-.672654	.5781045
typesitedum2	.2054384	.2292514	0.90	0.371	-.2450101	.6558869
dadedudum1	-.3772871	1.325841	-0.28	0.776	-2.98239	2.227815
dadedudum10	.2330565	1.188921	0.20	0.845	-2.103015	2.569128
dadedudum11	-.3435687	1.252052	-0.27	0.784	-2.803684	2.116546
dadedudum12	-.0503888	1.157974	-0.04	0.965	-2.325655	2.224877
dadedudum13	-1.461347	1.397289	-1.05	0.296	-4.206834	1.28414
dadedudum14	.7215971	1.306678	0.55	0.581	-1.845852	3.289046
dadedudum16	-1.041614	1.404518	-0.74	0.459	-3.801306	1.718078
dadedudum2	-.7064899	1.30509	-0.54	0.589	-3.270819	1.857839
dadedudum3	-.5809986	1.233271	-0.47	0.638	-3.004212	1.842215
dadedudum4	-.8764042	1.194807	-0.73	0.464	-3.224042	1.471233
dadedudum5	-.8490605	1.226284	-0.69	0.489	-3.258547	1.560426
dadedudum6	-.8117202	1.203168	-0.67	0.500	-3.175785	1.552345
dadedudum7	-.8626473	1.157574	-0.75	0.456	-3.137126	1.411831
dadedudum8	-.6226634	1.195239	-0.52	0.603	-2.971149	1.725823
dadedudum9	-.7113532	1.211971	-0.59	0.558	-3.092715	1.670008
momlit	-.2216991	.2223996	-1.00	0.319	-.6586848	.2152866
dadlit	-.4642305	.2528037	-1.84	0.067	-.9609562	.0324953
dadage	.0033956	.0180435	0.19	0.851	-.0320575	.0388488
momage	.0036647	.0210525	0.17	0.862	-.0377006	.0450301
post	6.154385	1.800154	3.42	0.001	2.617322	9.691449
treatment	.3220255	.2953303	1.09	0.276	-.2582593	.9023103
posttreat	-1.136354	.3592634	-3.16	0.002	-1.842259	-.4304494
_cons	18.93304	2.011624	9.41	0.000	14.98047	22.88562

Table: Diff in diff regression for BMI. Source: YL dataset

Difference in Difference: Weight of the Child

Source	SS	df	MS	Number of obs =	809
Model	108102.707	27	4003.80396	F(27, 781) =	243.15
Residual	12860.0289	781	16.4661062	Prob > F =	0.0000
Total	120962.736	808	149.706356	R-squared =	0.8937
				Adj R-squared =	0.8900
				Root MSE =	4.0578

chweight	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
chheight	.4074525	.0231572	17.60	0.000	.3619949	.4529102
wi	4.996914	1.295418	3.86	0.000	2.453999	7.539828
agemon	.0823536	.0101288	8.13	0.000	.0624706	.1022366
hhsize	-.2035015	.0821306	-2.48	0.013	-.3647244	-.0422786
sex	.4025623	.2932172	1.37	0.170	-.1730249	.9781495
typesitedum1	-.2019404	.3674414	-0.55	0.583	-.9232301	.5193492
dadedudum1	-1.649235	2.039918	-0.81	0.419	-5.653607	2.355136

dadedudum7	-2.701138	1.862514	-1.45	0.147	-6.357264	.9549875
dadedudum8	-3.317872	1.926814	-1.72	0.085	-7.100219	.4644753
dadedudum3	-2.069436	1.946859	-1.06	0.288	-5.891133	1.75226
dadedudum9	-2.234292	1.948353	-1.15	0.252	-6.05892	1.590337
dadedudum2	-2.154812	2.048488	-1.05	0.293	-6.176007	1.866383
dadedudum4	-3.071297	1.900519	-1.62	0.106	-6.802028	.6594336
dadedudum5	-1.57032	1.942896	-0.81	0.419	-5.384237	2.243597
dadedudum6	-2.752398	1.932594	-1.42	0.155	-6.546092	1.041296
dadedudum10	-1.969743	1.928553	-1.02	0.307	-5.755503	1.816017
dadedudum11	-2.740455	2.090457	-1.31	0.190	-6.844034	1.363124
dadedudum12	-2.076418	1.870639	-1.11	0.267	-5.748494	1.595658
dadedudum13	-2.741808	2.48267	-1.10	0.270	-7.615303	2.131687
dadedudum14	-1.269348	2.12875	-0.60	0.551	-5.448098	2.909401
dadedudum16	-3.984427	2.475955	-1.61	0.108	-8.844742	.8758879
momlit	-.1104406	.3319746	-0.33	0.739	-.7621087	.5412275
dadage	-.0043264	.029155	-0.15	0.882	-.0615579	.0529051
momage	.0162415	.0338109	0.48	0.631	-.0501295	.0826124
post	-1.748418	.6783883	-2.58	0.010	-3.080098	-.4167375
treatment	.4561836	.4231607	1.08	0.281	-.3744834	1.286851
posttreat	-2.417204	.5895184	-4.10	0.000	-3.574432	-1.259975
_cons	-28.7195	2.856904	-10.05	0.000	-34.32762	-23.11138

Table: Diff in diff regression for Weight of the child. Source: YL dataset

Difference in Difference: Height of the Child

Source	SS	df	MS		
Model	335420.576	27	12422.9843	Number of obs	809
Residual	21989.2717	781	28.1552775	F(27, 781)	441.23
				Prob > F	0.0000
				R-squared	0.9385
				Adj R-squared	0.9363
Total	357409.848	808	442.338921	Root MSE	5.3062

chheight	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
chweight	.6967002	.0395963	17.60	0.000	.6189725	.7744279
wi	1.264188	1.709388	0.74	0.460	-2.091351	4.619726
agemon	.1965836	.0118655	16.57	0.000	.1732915	.2198757
hhsize	-.1563739	.1076723	-1.45	0.147	-.3677354	.0549876
sex	.1623898	.3838377	0.42	0.672	-.591086	.9158655
typesitedum1	.1839988	.4805247	0.38	0.702	-.7592741	1.127272
dadedudum1	-2.414445	2.667173	-0.91	0.366	-7.650121	2.821231
dadedudum7	-.0524275	2.438753	-0.02	0.983	-4.839715	4.734859
dadedudum8	.1640793	2.524328	0.06	0.948	-4.791193	5.119351
dadedudum3	-.1914803	2.547601	-0.08	0.940	-5.192436	4.809475
dadedudum9	-.2965703	2.549844	-0.12	0.907	-5.30193	4.708789
dadedudum2	-.3853709	2.680523	-0.14	0.886	-5.647255	4.876513
dadedudum4	-.6972556	2.4892	-0.28	0.779	-5.583571	4.189059
dadedudum5	-1.568944	2.541029	-0.62	0.537	-6.556999	3.419112
dadedudum6	-1.101229	2.530088	-0.44	0.663	-6.067807	3.865349
dadedudum10	1.264271	2.523109	0.50	0.616	-3.688607	6.217149
dadedudum11	1.367539	2.736109	0.50	0.617	-4.00346	6.738539
dadedudum12	-.6217059	2.447929	-0.25	0.800	-5.427006	4.183594
dadedudum13	.8175411	3.248812	0.25	0.801	-5.559897	7.194979
dadedudum14	-.9360089	2.784047	-0.34	0.737	-6.40111	4.529092
dadedudum16	.5272455	3.242938	0.16	0.871	-5.838662	6.893153
momlit	.8477395	.4330691	1.96	0.051	-.0023778	1.697857
dadage	.022989	.0381156	0.60	0.547	-.0518323	.0978102
momage	-.0242553	.0442101	-0.55	0.583	-.11104	.0625293
post	5.480705	.8689894	6.31	0.000	3.774874	7.186537
treatment	-1.776651	.5500872	-3.23	0.001	-2.856476	-.6968267
posttreat	2.057783	.775637	2.65	0.008	.535203	3.580363
_cons	78.89102	2.791555	28.26	0.000	73.41118	84.37086

Table: Diff in diff regression for height of the child. Source: YL dataset

Long term effect of Juntos

Difference in Difference: Wealth Index

```
   Source |       SS       df       MS              Number of obs =     821
-------------+------------------------------           F( 30,   790) =  299.94
       Model |  18.4631056    30  .615436854           Prob > F      =  0.0000
    Residual |   1.6209928   790   .00205189           R-squared     =  0.9193
-------------+------------------------------           Adj R-squared =  0.9162
       Total |  20.0840984   820  .024492803           Root MSE      =   .0453

------------------------------------------------------------------------------
          wi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          cd |   .4022818   .0146252    27.51   0.000      .373573    .4309906
      hhsize |  -.0016129    .000911    -1.77   0.077    -.0034012    .0001753
       elecq |   .0864054   .0041683    20.73   0.000     .0782232    .0945876
     toiletq |   .0823576   .0043069    19.12   0.000     .0739033    .0908119
    drwaterq |   .0908176   .0035592    25.52   0.000      .083831    .0978042
    cookingq |   .0877588   .0062911    13.95   0.000     .0754095    .1001081
typesitedum1 |    .017784   .0041662     4.27   0.000     .0096058    .0259622
  regiondum1 |  -.0065843   .0072178    -0.91   0.362    -.0207526    .0075841
  regiondum3 |  -.0068193   .0057624    -1.18   0.237    -.0181307    .0044921
  dadedudum1 |  -.0673953   .0228015    -2.96   0.003    -.1121541   -.0226365
  dadedudum2 |  -.0593332   .0229557    -2.58   0.010    -.1043946   -.0142719
  dadedudum3 |  -.0554669   .0218425    -2.54   0.011    -.0983431   -.0125907
  dadedudum4 |   -.065688   .0213092    -3.08   0.002    -.1075174   -.0238586
  dadedudum5 |  -.0511987   .0218423    -2.34   0.019    -.0940745    -.008323
  dadedudum6 |  -.0621158   .0217142    -2.86   0.004    -.1047401   -.0194914
  dadedudum7 |  -.0513238    .020908    -2.45   0.014    -.0923657    -.010282
  dadedudum8 |  -.0416844   .0217172    -1.92   0.055    -.0843146    .0009458
  dadedudum9 |  -.0487415   .0218971    -2.23   0.026    -.0917248   -.0057581
 dadedudum10 |  -.0477492   .0216031    -2.21   0.027    -.0901554    -.005343
 dadedudum11 |  -.0700459     .02345    -2.99   0.003    -.1160775   -.0240142
 dadedudum12 |  -.0436225   .0210098    -2.08   0.038     -.084864   -.0023809
 dadedudum13 |  -.0037536   .0276947    -0.14   0.892    -.0581175    .0506102
 dadedudum14 |  -.0842447   .0237408    -3.55   0.000    -.1308473   -.0376421
 dadedudum16 |  -.0576776   .0277479    -2.08   0.038     -.112146   -.0032092
      momlit |   .0007569   .0037117     0.20   0.838    -.0065291    .0080429
      dadage |   .0000708   .0003261     0.22   0.828    -.0005692    .0007108
      momage |  -.0000736   .0003698    -0.20   0.842    -.0007996    .0006523
        post |   .0212545   .0061504     3.46   0.001     .0091815    .0333276
   treatment |  -.0009302   .0051764    -0.18   0.857    -.0110914     .009231
   posttreat |  -.0228357   .0067722    -3.37   0.001    -.0361293   -.0095421
       _cons |   .1197664   .0227491     5.26   0.000     .0751105    .1644223
------------------------------------------------------------------------------
```

Table: Diff in diff regression for WI. Source: YL dataset

Difference in Difference: Housing Quality

```
   Source |       SS       df       MS              Number of obs =     821
-------------+------------------------------           F( 27,   793) =   32.55
       Model |  10.6911883    27  .395969938           Prob > F      =  0.0000
    Residual |  9.64545927   793  .012163253           R-squared     =  0.5257
-------------+------------------------------           Adj R-squared =  0.5096
       Total |  20.3366476   820   .02480079           Root MSE      =  .11029

------------------------------------------------------------------------------
          hq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          wi |   .9345104   .0458545    20.38   0.000     .8444999    1.024521
          cd |  -.3354818   .0430555    -7.79   0.000    -.4199979   -.2509656
      hhsize |  -.0006272   .0022188    -0.28   0.777    -.0049826    .0037282
typesitedum1 |    .009327   .0100856     0.92   0.355    -.0104707    .0291246
  regiondum1 |  -.0189745   .0174223    -1.09   0.276    -.0531737    .0152247
  regiondum3 |  -.0096254   .0137387    -0.70   0.484    -.0365939    .0173431
```

dadedudum1	-.1115772	.0552994	-2.02	0.044	-.2201278	-.0030267
dadedudum2	-.11147	.0555604	-2.01	0.045	-.2205328	-.0024072
dadedudum3	-.0902981	.0528244	-1.71	0.088	-.1939903	.0133942
dadedudum4	-.1116447	.0516098	-2.16	0.031	-.2129527	-.0103367
dadedudum5	-.0725719	.0528533	-1.37	0.170	-.1763207	.0311769
dadedudum6	-.1020519	.0525303	-1.94	0.052	-.2051668	.0010631
dadedudum7	-.0724705	.0505936	-1.43	0.152	-.1717837	.0268426
dadedudum8	-.0563232	.0524968	-1.07	0.284	-.1593722	.0467259
dadedudum9	-.0772652	.0529558	-1.46	0.145	-.1812154	.026685
dadedudum10	-.0633353	.0523454	-1.21	0.227	-.1660873	.0394166
dadedudum11	-.1123506	.0569019	-1.97	0.049	-.2240468	-.0006544
dadedudum12	-.0691264	.0507937	-1.36	0.174	-.1688325	.0305796
dadedudum13	.0325083	.0672707	0.48	0.629	-.0995415	.164558
dadedudum14	-.1557131	.0578723	-2.69	0.007	-.2693142	-.0421121
dadedudum16	-.0880937	.067373	-1.31	0.191	-.2203442	.0441567
momlit	.0052256	.0089689	0.58	0.560	-.0123801	.0228313
dadage	.0008022	.000793	1.01	0.312	-.0007544	.0023587
momage	-.0008391	.0008997	-0.93	0.351	-.0026052	.000927
post	.012377	.0148851	0.83	0.406	-.0168418	.0415957
treatment	-.0035411	.0125688	-0.28	0.778	-.0282132	.0211309
posttreat	-.0646181	.0160411	-4.03	0.000	-.0961062	-.0331301
_cons	.1104305	.0560366	1.97	0.049	.0004329	.2204281

Table: Diff in diff regression for housing quality. Source: YL dataset

Difference in Difference: Consumer Durable Index

Source	SS	df	MS	Number of obs =	784
Model	14.4335006	28	.515482164	F(28, 755) =	70.49
Residual	5.52082868	755	.007312356	Prob > F =	0.0000
				R-squared =	0.7233
Total	19.9543293	783	.025484456	Adj R-squared =	0.7131
				Root MSE =	.08551

cd	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
nfoodexp	.0000527	.0000125	4.21	0.000	.0000281	.0000773
hq	-.2105388	.0268476	-7.84	0.000	-.2632437	-.1578339
wi	.7899725	.0338773	23.32	0.000	.7234677	.8564773
hhsize	.000043	.0017719	0.02	0.981	-.0034355	.0035216
typesitedum1	.0020251	.0080969	0.25	0.803	-.01387	.0179201
regiondum1	.0081471	.0139299	0.58	0.559	-.0191988	.035493
regiondum3	.0065762	.0108934	0.60	0.546	-.0148088	.0279612
dadedudum1	-.024831	.0435512	-0.57	0.569	-.1103268	.0606648
dadedudum2	-.0091067	.0432212	-0.21	0.833	-.0939548	.0757413
dadedudum3	-.0082378	.0413492	-0.20	0.842	-.0894109	.0729352
dadedudum4	-.0151978	.0402627	-0.38	0.706	-.094238	.0638424
dadedudum5	-.0056662	.0411976	-0.14	0.891	-.0865415	.0752092
dadedudum6	.0007181	.0408769	0.02	0.986	-.0795278	.0809641
dadedudum7	.001379	.0393409	0.04	0.972	-.0758515	.0786095
dadedudum8	.0003393	.0408158	0.01	0.993	-.0797866	.0804652
dadedudum9	.024564	.0412874	0.59	0.552	-.0564877	.1056157
dadedudum10	.0240566	.0407452	0.59	0.555	-.0559308	.1040439
dadedudum11	.0084923	.0442945	0.19	0.848	-.0784627	.0954473
dadedudum12	.02274	.0394949	0.58	0.565	-.0547928	.1002728
dadedudum13	.0085362	.0521888	0.16	0.870	-.0939162	.1109887
dadedudum14	.0231393	.0455342	0.51	0.611	-.0662494	.112528
dadedudum16	.0609155	.0523442	1.16	0.245	-.041842	.163673
momlit	.0081506	.0070904	1.15	0.251	-.0057686	.0220699
dadage	.0006153	.0006362	0.97	0.334	-.0006338	.0018643
momage	-.0001938	.0007309	-0.27	0.791	-.0016286	.001241
post	.0767663	.0115522	6.65	0.000	.0540881	.0994446
treatment	.0008461	.0098193	0.09	0.931	-.0184302	.0201224
posttreat	-.0556243	.0127956	-4.35	0.000	-.0807435	-.0305051
_cons	-.0507485	.0437722	-1.16	0.247	-.1366782	.0351812

Table: Diff in diff regression for consumer durable index. Source: YL dataset

Difference in Difference: Housing quality

```
   Source |       SS       df       MS              Number of obs =     821
-------------+------------------------------           F( 27,   793) =  150.18
       Model |  49.3195226    27  1.82664898           Prob > F      =  0.0000
    Residual |  9.64545915   793  .012163252           R-squared     =  0.8364
-------------+------------------------------           Adj R-squared =  0.8309
       Total |  58.9649817   820  .071908514           Root MSE      =  .11029

------------------------------------------------------------------------------
          sv |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          cd |  -.6645182   .0430555   -15.43   0.000    -.7490344   -.5800021
          wi |    2.06549   .0458545    45.04   0.000     1.975479      2.1555
      hhsize |   .0006272   .0022188     0.28   0.777    -.0037282    .0049826
typesitedum1 |   -.009327   .0100856    -0.92   0.355    -.0291246    .0104707
  regiondum1 |   .0189745   .0174223     1.09   0.276    -.0152247    .0531737
  regiondum3 |   .0096254   .0137387     0.70   0.484    -.0173431    .0365939
  dadedudum1 |   .1115772   .0552994     2.02   0.044     .0030267    .2201278
  dadedudum2 |     .11147   .0555604     2.01   0.045     .0024072    .2205328
  dadedudum3 |    .090298   .0528244     1.71   0.088    -.0133942    .1939903
  dadedudum4 |   .1116447   .0516098     2.16   0.031     .0103367    .2129527
  dadedudum5 |   .0725719   .0528533     1.37   0.170    -.0311769    .1763207
  dadedudum6 |   .1020518   .0525303     1.94   0.052    -.0010631    .2051668
  dadedudum7 |   .0724705   .0505936     1.43   0.152    -.0268426    .1717836
  dadedudum8 |   .0563232   .0524968     1.07   0.284    -.0467259    .1593722
  dadedudum9 |   .0772652   .0529558     1.46   0.145     -.026685    .1812154
 dadedudum10 |   .0633353   .0523454     1.21   0.227    -.0394166    .1660873
 dadedudum11 |   .1123506   .0569019     1.97   0.049     .0006545    .2240468
 dadedudum12 |   .0691264   .0507937     1.36   0.174    -.0305796    .1688325
 dadedudum13 |  -.0325083   .0672707    -0.48   0.629     -.164558    .0995415
 dadedudum14 |   .1557131   .0578723     2.69   0.007     .0421121    .2693142
 dadedudum16 |   .0880937    .067373     1.31   0.191    -.0441567    .2203442
      momlit |  -.0052256   .0089689    -0.58   0.560    -.0228313    .0123801
      dadage |  -.0008022    .000793    -1.01   0.312    -.0023587    .0007544
      momage |   .0008391   .0008997     0.93   0.351     -.000927    .0026052
        post |   -.012377   .0148851    -0.83   0.406    -.0415957    .0168418
   treatment |   .0035411   .0125688     0.28   0.778    -.0211309    .0282132
   posttreat |   .0646181   .0160411     4.03   0.000     .0331301    .0961062
       _cons |  -.1104305   .0560366    -1.97   0.049    -.2204281   -.0004329
------------------------------------------------------------------------------
```

Table: Diff in diff regression for housing quality. Source: YL dataset

Difference in Difference: Food expenditure

```
     Source |       SS       df       MS              Number of obs =     784
-------------+------------------------------           F( 29,   754) =   10.79
       Model |  26494459.6    29  913602.054           Prob > F      =  0.0000
    Residual |  63842402.3   754   84671.621           R-squared     =  0.2933
-------------+------------------------------           Adj R-squared =  0.2661
       Total |  90336861.8   783  115372.748           Root MSE      =  290.98

------------------------------------------------------------------------------
     foodexp |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          wi |  -170.4248   231.6748    -0.74   0.462    -625.2291    284.3795
          cd |   368.5922   135.2204     2.73   0.007     103.1389    634.0455
      hhsize |   31.82274   5.806357     5.48   0.000     20.42419    43.22129
       elecq |  -8.869081   33.75738    -0.26   0.793     -75.1387    57.40054
     toiletq |   37.60838   33.73309     1.11   0.265    -28.61357    103.8303
    drwaterq |   94.46217   31.41529     3.01   0.003     32.79034     156.134
    cookingq |   52.95682   46.40726     1.14   0.254    -38.14599    144.0596
typesitedum1 |   17.68411   27.97056     0.63   0.527    -37.22532    72.59353
  regiondum1 |  -1.003934   47.38088    -0.02   0.983    -94.01806    92.01019
  regiondum3 |  -140.7749   37.76333    -3.73   0.000    -214.9087   -66.64111
  dadedudum1 |  -116.6337   148.6547    -0.78   0.433      -408.46    175.1925
  dadedudum2 |  -2.076518    148.061    -0.01   0.989    -292.7374    288.5843
  dadedudum3 |  -94.68954   141.5863    -0.67   0.504    -372.6398    183.2607
  dadedudum4 |  -12.20583   138.0175    -0.09   0.930    -283.1501    258.7384
  dadedudum5 |   13.10685   141.2952     0.09   0.926    -264.2719    290.4856
```

dadedudum6	32.31805	140.3004	0.23	0.818	-243.1077	307.7438
dadedudum7	20.62715	135.0593	0.15	0.879	-244.5097	285.764
dadedudum8	-31.16758	140.1679	-0.22	0.824	-306.3332	243.9981
dadedudum9	-31.91483	141.7774	-0.23	0.822	-310.2402	246.4105
dadedudum10	-89.48112	139.5681	-0.64	0.522	-363.4694	184.5071
dadedudum11	-4.867142	151.3966	-0.03	0.974	-302.0762	292.3419
dadedudum12	-24.72767	135.6003	-0.18	0.855	-290.9267	241.4714
dadedudum13	2.58676	177.8485	0.01	0.988	-346.5504	351.7239
dadedudum14	-13.17706	154.7275	-0.09	0.932	-316.9249	290.5708
dadedudum16	223.7435	178.6104	1.25	0.211	-126.8893	574.3763
momlit	-20.09432	24.04217	-0.84	0.404	-67.29187	27.10323
post	148.2902	39.86724	3.72	0.000	70.02619	226.5541
treatment	-23.88904	33.33124	-0.72	0.474	-89.32211	41.54403
posttreat	133.3299	45.18092	2.95	0.003	44.63458	222.0253
_cons	132.6848	144.3269	0.92	0.358	-150.6456	416.0152

Table: Diff in diff regression for food expenditure. Source: YL dataset

REFERENCES

Akee, R., Copeland, W., Keeler, G., Angold, A., & Costello, J. (2008). Parents' incomes and children's outcomes: a quasi-experiment.

Andersen, C. T., Reynolds, S. A., Behrman, J. R., Crookston, B. T., Dearden, K. A., Escobal, J., ... & Fernald, L. C. (2015). Participation in the Juntos conditional cash transfer program in Peru is associated with changes in child anthropometric status but not language development or school achievement. *The Journal of nutrition*, *145*(10), 2396-2405.

Azevedo, V., & Robles, M. (2013). Multidimensional targeting: Identifying beneficiaries of conditional cash transfer programs. *Social Indicators Research*, *112*(2), 447-475.

Barham, T., Macours, M. & Maluccio, JA.,(2011). Long Term Effects of a Conditional Cash Transfer Program in Nicaragua.

Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The future of children*, 25-50.

Behrman, J.R., Gallardo-Garcia, J., Parker, S., Todd, P.E. and V´elez-Grajales, V., 2010. How conditional cash transfers impact schooling and work for children and youth in urban Mexico. Unpublished manuscript. Philadelphia, Pennsylvania: University of Pennsylvania.

Benavides Vizcarra, C. & Safaei, J., 2016. Stunting in Peruvian Children: an Empirical Analysis

Carrillo-Larco, R. M., Miranda, J. J., & Bernabé-Ortiz, A. (2016). Wealth index and risk of childhood overweight and obesity: evidence from four prospective cohorts in Peru and Vietnam. *International journal of public health*, *61*(4), 475-485.

Crookston B., Penny M., Alder S., Dickerson T., Merrill R., Stanford J., Porucznik C., Dearden KA(2010). Children who recover from early stunting and children who are not stunted demonstrate similar levels of cognition. Journal of Nutrition.

De Calboli Ginnasi, C.P., 2016. Thirsty for Work: The Impact of Early Life Rainfall Shocks on Employment Outcomes in Ethiopia.

Duflo, E. (2003). Grandmothers and granddaughters: old-age pensions and intrahousehold allocation in South Africa. *The World Bank Economic Review*, *17*(1), 1-25.

Favara, M., & Sanchez, A. (2017). Psychosocial competencies and risky behaviours in Peru. *IZA Journal of Labor & Development*, *6*(1), 3.

Fernald, L. C., Gertler, P. J., & Neufeld, L. M. (2009). 10-year effect of Oportunidades, Mexico's conditional cash transfer programme, on child growth, cognition, language, and behaviour: a longitudinal follow-up study. *The Lancet*, *374*(9706), 1997-2005.

Georgiadis, A., 2017. The Sooner The Better But It's Never Too Late, Young Lives Working Paper.

Human development report 2015: work for human development

International fund for agricultural development

Jones, N., Vargas, R., & Villar, E. (2007). Conditional cash transfers in Peru: Tackling the Multi-dimensionality of Childhood poverty and vulnerability. *New York: New School and UNICEF*. World food program

Marini, A., 2016. The Three Factor to Halving Childhood Stunting in Peru over Just a Decase.

Martins V., Florencio T., Grillo L., Franco M., Martins P., Clemente A., Santos C., Vieira M. and Sawaya A (2011). Long- Lasting Effects of Undernutrition.

Pankhurst, A., Tiumelissan, A. & Chuta,C., 2016. The Interplay Between Community, Household and Child Level Influences on Trajectories to Early Marriage in Ethiopia: Evidence from Young Lives.

Pasquier-Doumer, L., & Brandon, F. R. (2015). Aspiration failure: a poverty trap for indigenous children in Peru?. *World Development*, *72*, 208-223.

Pawlowski, T., Schüttoff, U., Downward, P., & Lechner, M. (2016). Can sport really help to meet the Millennium Development Goals? Evidence from children in Peru. *Journal of Sports Economics*, 1527002516661601.

Perova, E., & Vakis, R. (2012). 5 years in Juntos: New Evidence on the Program's Short and Long-term Impacts.

Ruel, M. T., Alderman, H., & Maternal and Child Nutrition Study Group. (2013). Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition?. *The Lancet*, *382*(9891), 536-551.

Sanchez, A., Melendez, G., & Behrman, J. (2016). The Impact of the Juntos Conditional Cash Transfer Programme in Peru on Nutritional and Cognitive Outcomes.

Soares, F. V., & Silva, E. (2010). Conditional cash transfer programmes and gender vulnerabilities in Latin America. *Overseas Development Institute*.

Tabuga, A. D., & Reyes, C. M. (2012). *Conditional cash transfer program in the Philippines: is it reaching the extremely poor?* (No. 2012-42). PIDS Discussion Paper Series.

UNDP, 2015

UNDP, 2016

Woldehanna, T., & Araya, M. (2016). Educational Inequalities among Children and Young People in Ethiopia.

World bank 2015

World Bank, 2016