

Child Labor Supply in Palestine: Trends and Perspectives

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Abstract

The family decision model suggests that families don't send their kids to work unless they are faced with reduction in income due to decrease in economic activities. However, this study reveals that an increase in national output and income, measured by GDP and GNI per capita in Palestine does not result in a decline in the supply of child labor. Economic shocks in Palestine as a result of Israeli policies have significant positive effects on child labor supply. The study indicates that while child labor increased in the years where overall national income declined, supply of child labor persisted during year when income and employment increased. Child labor supply in Palestine could be concluded to be a "complement" factor for adults' employment.

Introduction

This study analyzes the effect of decline in family income on child labor supply in Palestine since the second Intifada of 2000. Closures imposed by Israel as response to the Intifada placed severe restrictions on movement of people and goods. One of the main reasons for the economic shock was high unemployment in the Palestinian territories due to the inability of Palestinian laborers to enter the Israeli job market. The shortage of job opportunities in the Palestinian territories, coupled with higher than usual labor force supply, created a disparity in wages in the two regions. During political upheaval, during and after the Intifada, Israel blocked the commute and thus created temporary high unemployment for the duration of hostilities and beyond (Sayre 2009). One consequence of boarder blockade is diminished earnings (Miaari and Sauer 2006). Another consequence is the replacement of Palestinian workers with immigrants from other countries, which tend to be less volatile and at times become permanent (Miaari and Sauer 2006). The consequence has been deterioration of the job availability for Palestinians and decline in real wages (UNRWA 2011). The resulting decline in the standard of living forces family members of the unemployed, who were not in the labor force before, to enter the job market in order to increase the probability of earning a living (Uhler and Kunin 1972). One of the main challenges facing the Palestinian labor market is declining real wages, which is caused by high unemployment, slow growth in the private sector, and high inflation (UNRWA 2011).

The combination of widespread unemployment, decline in real wages, inflation, and slow growth in the overall economy has a negative effect on the standard of living for Palestinian families. Since the ability of the head of the household (usually the husband in Palestine) to find a job is slimmer and the wage is lower if a job is secured, the family is forced to seek alternative

methods to generate income. In other words, the family as a unit of labor force has to supply the market with more labor hours to compensate for the lower earnings level. This decision is assumed to be influenced by two factors. First, the anticipated wage; and second, the probability of finding a job (Alban and Jackson 1976). The lower the wage of the head of the household in relation to the family's standard of living, the higher the probability of a family supplying the market with more labor by the wives and/or the kids.

In times of economic crisis, it was found that more children drop out of school and enter the labor market. This is due in part to the family's perception of future lower utility of their children's education as a result of decline in economic activities (Brown *et al* 2002). In a child labor survey performed by the Palestinian Central Bureau of Statistics (PCBS), it was found that 71.0% of working children work due to economic need, 51.4% work to assist in household projects and 19.6% work to increase household income (PCBS 2004). In an earlier study of the impact of Israeli measures after the start of the second Intifada on child labor in Palestine, Al Kafri (2002) concluded that during political and economic crises the probability of younger Palestinian children joining the labor market increases. In fact the UNICEF has raised concern about the rising supply of child labor in Palestine due to growing poverty, particularly in Gaza. High unemployment among adults, hunger, and need has driven families to allow their children to work, and in some cases, to drop out of school and work full time (UNICEF 2009). Although UNICEF did not find this trend to affect the overall Palestinian literacy, which is 99% for both male and female, learning achievement has noticeably declined along with primary school enrolment in recent years, particularly in the Gaza Strip (UNICEF 2009).

This study uses the broadly adopted model of family decision as a result of change in family income level to review the trend of supply of child labor in Palestine. The main contribution of this study is to add to the depth of understanding of the consequences of the Israeli closure on the Palestinian labor force and overall Palestinian family welfare. The results will help policy makers, especially donor parties, allocate development resources more effectively to reduce or eliminate further damage to the Palestinian economic factors, mainly human capital. The study uses quarterly Labor Force Survey conducted by the Palestinian Central Bureau of Statistics for the period of 2000 to 2010. A longitudinal analysis approach is adopted to demonstrate the trend of child labor force, overall labor force trend, national income and economic growth indicators, and effect on schooling for the period of 2000 to 2010. The aim of the analysis in this paper is not to establish causality, but rather to establish a more robust understanding of the trends of the child labor in Palestine during this unprecedented economic crisis.

Literature Review: Theories of Child Labor Supply

Poverty and Income

International Labor Organization defines child labor as “*work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development.*” Child labor as a phenomenon is widely viewed as a symptom of poverty, and child labor supply is a function of family income (Suryahadi 2005). Brown *et al* (2001) has found that poverty is a substantial force that drives children to work. They also concluded that the effect of poverty on child labor supply is mitigated by the presence of older siblings and by the education of the mother. An educated mother is assumed to be less poor since she has higher

probability of obtaining a job, thus, she is more likely to enter the job market instead of her children. Poverty as an independent variable of child labor is not sufficient to induce child labor supply without an effect on the income level. Suryahadi *et al* (2005) found that the profile of child labor mirrors the profile of that in poverty. Falling family income has a positive effect on other family member's decision to enter the labor market in attempt to maintain the family income level (Uhler and Kunin 1972). On the other hand, a rise in family income as a result of rise in wages, increases the family demand on unpaid time (leisure), thus reducing the family supply of labor force, which then creates a backward bending effect on the family labor supply curve (Renaud and Siegers 1984). Derived from the luxury axiom theory developed by Basu and Van (1998), the family's decision to send a child to the labor market is caused by the family's income level dropping low as a result of non-child-labor sources, which then causes the family demand for nonpaid time to decline (Basu and Van 1998). Building on this framework, Edmonds (2009) and Basu and Tzannatos (2003) argue that families choose to supply the market with child labor only when family's income reaches below its subsistence level. Edmonds (2009) also argues that no matter how high child labor economic contribution, families will never choose child labor if their income is above subsistence level. Thus, poverty as a factor is not sufficient to induce child labor according to Edmonds, but rather the level of the family income. The family's falling income level and its effect on child labor has been challenged. In contrast, it was found that an increase in family assets, mainly land, increases family demand for the labor of their children (Basu and Tzannatos 2003; Basuy *et al* 2010; Brown *et al* 2002; Grootaer and Kandur 1995). These authors found that the presence of a land has a stronger effect on the presence of child labor where labor market is failing. Families choose to use their children to work on the land rather than investing in their education (human capital) as they perceive the utility of

education to be low due to the failure of the labor market, and the economy as a whole. While poverty is strongly associated with child labor, family income level is a stronger indicator of child labor supply in poor, mainly, agrarian societies.

Education and Child Labor Supply

Adult Education Effect

Driven from the positive effect of human capital on economic growth, mostly presented by the neoclassical growth model, it is assumed that families with higher levels of education are better off economically than those with less or no education. Parents' education was found to negatively influence the child labor supply. Brown *et al's* (2002) investigative study of the determinants of child labor concluded that parental education has a significant negative effect on child labor. Similarly, Brown *et al* (2001) found similar results, but more profoundly, they found that the more schooling both father and mother possess, the more likely they are to choose to devote their kids' time exclusively for school, even if they have to further tighten their household budget. More specifically, female adult education was found to be more effective in redacting child labor supply than adult male education (Basuy *et al* 2010; Brown *et al* 2001). Amin *et al* (2006) argue that, for the most part, children and mothers tend to be a compliment in the family decision to supply the labor market due to the perceived low earning potential of both groups – women and children. The mitigating effect of mother's education on child labor supply is similar to the effect of the presence of family assets (land, capital, older siblings) since mother's education is considered a marketable skill that could be utilized when family income declines (Brown *et al* 2001). Also, it was found that adults (parents) with more education are capable of

absorbing reduction in household income. As a result, they will choose to remove their children from the labor market (Hussain and Maskus 2003). This is due to the fact educated parents have more job options in the labor market. In a concluding remark, Suryahadi *et al* (2005) found that incidence of child labor is lower in households with higher education. In fact, they found that the higher the level of education attained by the head of the household, the lower the incidence of child labor. They also concluded that, in developing countries where child labor is common, the lower the level of education for the head of the household, the higher the incidence of poverty.

Child Labor and Child Education

Based on the household decision-making model, families decide on the allocation of their children's time among market work, education, leisure, and home production (Brown *et al* 2002). This model assumes that an increase in the father's income will increase his, as well as the whole family, demand for leisure time. Since child education is considered to be non-working time (leisure), demand for child education increases with the increase of the household income (Brown *et al* 2002). On the other hand, especially during economic crisis characterized by decline in economic activities and high adult unemployment, Brow *et al* (2002) found that the opportunity cost for child's education declines. This positively affects child labor supply where child income becomes needed. The family decision to pull their kids out of school and send them to the labor market is positively affected by the perception of low return to child's education (Brown *et al* 2001). When family's perceived current income loss due to a child's time in school is higher than their perception of future income with education, families pull kids out of school and send them to work. This is found to be more common among younger laborers since as child

ages and becomes more educated, then the opportunity cost of him/her leaving school rises and thus, families decided to keep older kids in school during economic crises (Brown *et al* 2001).

Regarding the effect of child's education on child's participation in the labor market, the literature found conflicting results. On one end, no relationship was established between the effect of quality of child's education on reducing child labor (Hussain and Maskus 2003). In contrast, Hussain and Markus concluded that child labor has an adverse effect on the accumulation of human capital. Suyahadi *et al* (2005) argues that in general, child labor has a negative effect on the rate of school participation for children. They found in other incidents in Indonesia that without working, some children will not be able to afford school. Thus, child labor in the latter case has a positive effect on child's school attainment. While child labor might have a positive effect on school's attainment, its effect on child's academic performance is questionable since being in class is a "necessary but not sufficient condition for learning" (Suyahadi *et al* 2005, P 365). Basu and Tzannatos (2003) warn about the long-term effect of taking children out of school and sending them to the labor market. They argue that less educated children possess less human capital, which places them in lower income status (poverty). Thus, as they grow, they become poor parents with low household income, which would force them in turn to send their children to work at the expense of schooling. This is referred to as the "dynastic trap" (Basu and Tzannatos 2003).

Unemployment, Wages, and Child Labor

Since it is assumed that supply of child labor is determined mostly by the fluctuation of household income, adult employment is assumed to have the primary effect on the level of the

household income. Falling family income due to loss of main income or due to reduction in wages influences other family members (i.e. wives and children) to seek jobs (Uhler and Kunin 1972). In an earlier model, Alban and Jackson (1976) argue that market conditions influence the behavior of individuals in the labor market, mainly the primary labor force. Continuing from this assumption, when there is market rigidity with low wages and adult unemployment is expected to rise, child labor serves mainly as a substitute for adult labor (Basu and Tzannatos 2003). It is families with unemployed adults who send their children to work (Basu 1999). In economic downturn and high unemployment, mainly in developing countries with absence of effective welfare systems, families without any form of assets rely on their supply of labor force to compensate the reduction of income due to external economic factors (Sharif 2000). Thus, adult unemployment, which adversely affects family income level and its ability to sustain livable standards, induces more aggregate labor supply by the family to adjust for the loss of income. This fact is also supported by the forward-falling labor supply curve by poor families where the lower the wages, the higher the supply of family labor time (Sharif 2000)

Child Labor, Child Education, and Wages in Palestine

UNICEF (2009) has raised a concern about the rise in Palestinian child labor supply post the second Intifada. It concluded that family decisions in the Palestinian Occupied Territories to pull their kids out of school and allow them to work are driven by hunger and dire economic conditions. UNICEF (2009) estimated that in 2009, 70% of Palestinians in the Gaza Strip were poor, with an income of less than \$250 per month for a family of nine (UNICEF 2009). The Child Labor Survey found that 71% of working children engaged in paid jobs due to severe

economic needs, while 51.4% work to assist in household projects, and only 19.6% of working children work to increase household income (PCBS 2004). PCBS (2004) also found that 67.4% of working children are unpaid family members. The percentage of economically active children dropped more than 50% (from 7% to 3.2%) in late 2001 due to collapse of private small businesses and workshops that used to absorb child labor, and due to closure of the Israeli job market (Al Kafri 2002). This drop in child labor in Palestine after the second Intifada gives a false positive indication according to Al Kafri (2002). This is due to the fact that children left work unwillingly due to closures and/or destruction of business in Palestinian territories.

Palestinian literacy rate is around 99%, which is among the highest in the Arab World, especially among girls (UNICEF 2009). Dropout rates, especially at the secondary education level, dropped from 10.9% to 8.6% in 2001 (Al Kafri 2002). This could be due to the shrinkage of job opportunities for working children. Although the supply of child labor in Palestine has not significantly affected child school enrolment or literacy rates, learning achievement rate has declined in recent years, particularly in Gaza Strip (UNICEF 2009).

Unemployment in Palestine reached alarming rates since the start of the second Intifada. Prior to 200, one third of the Palestinian labor force worked in the Israeli labor market. With the closure of Israeli borders and roadblocks between Palestinian territories, entry of Palestinian labor in Israel was restricted, causing a sudden spike in unemployment. While this effect was assumed to have a temporary effect on Palestinian unemployment, the prolonged closure induced Israeli employers to reduce their reliance on Palestinian labor. Israeli employers substituted Palestinian labor with foreign laborers, which has produced a permanent effect on Palestinian unemployment (Mari and Sauer 2006). According to Mari and Sauer (2006), the overall

reduction of Palestinian employment in Israel as a result of substitution with foreign workers is estimated to be 30%. Besides the effect of physical barriers that prevent or control the flow (supply) of Palestinian labor to Israel, it was found that Israeli demand for Palestinian labor has significantly declined (Aranki 2004). In fact, even wages offered by Israeli employers for those Palestinians who are able to enter Israel have decline significantly, especially for residents of Gazan (Aranki 2004). Thus, the closure policy was found to increase unemployment and also to have a negative effect on overall Palestinian aggregate earnings (Aranki 2004). A similar effect by the closure was found to correlate with reduction in mean monthly earnings in Palestine (Mari and Sauer 2006). In a more recent study about the effect of economic shock on child labor in Palestine, Nandi and Maio (2010) concluded that job loss in Israel by a head of a household had a significant effect on child labor in Palestine. Also, they found that recent transition to child labor is caused when a head of a household starts his own business, thus, creating a job opportunity for his child. The increase of labor supply in the Palestinian local labor market also caused a downward pressure on wages, reducing the average earning by skilled laborers. The resulting decline in the standard of living forced family members of the unemployed, who were not in the labor force before, to enter the job market in order to increase the probability of earning a living. UNICEF concluded that child labor “is directly linked with the economic crisis represented in the unprecedented poverty and unemployment rates brought about by the Israeli aggressive practices against the Palestinian society and the deliberate siege and destruction for its economic structure and the livelihood of its individuals” (Sabela 2004, P74). One of the main challenges facing current Palestinian labor market is declining real wages, which is caused by high unemployment, slow growth in the private sector, and high inflation (UNRWA 2011).

Research Method

Research Questions

Does the increase in unemployment in Palestine cause an increase in child labor supply? Is family income in Palestine the only factor that determines the supply of child labor? Unemployment rates here are measured for the labor force of 15 years-old and older. Overall change in national income is measured by GDP and GNI per capita.

Data Description

The study uses quarterly labor force survey results from 2000 to 2011 (PCBS 2011). The age group that is included in the data set is 10 to 14 years old. The PCBS quarterly labor force survey does not account for household members younger than 10 years old. The survey mainly collects data related to employment (type, wages, hours worked, industry, labor force status) and education attainment.

Procedure

A longitudinal analysis is utilized to review trends of change in the rate of employment and unemployment for two age groups, 10-14 and 15 and older. These trends are observed with changes in the trend of income and output growth (GNI and GDP per Capita), and school dropouts.

Theoretical Model

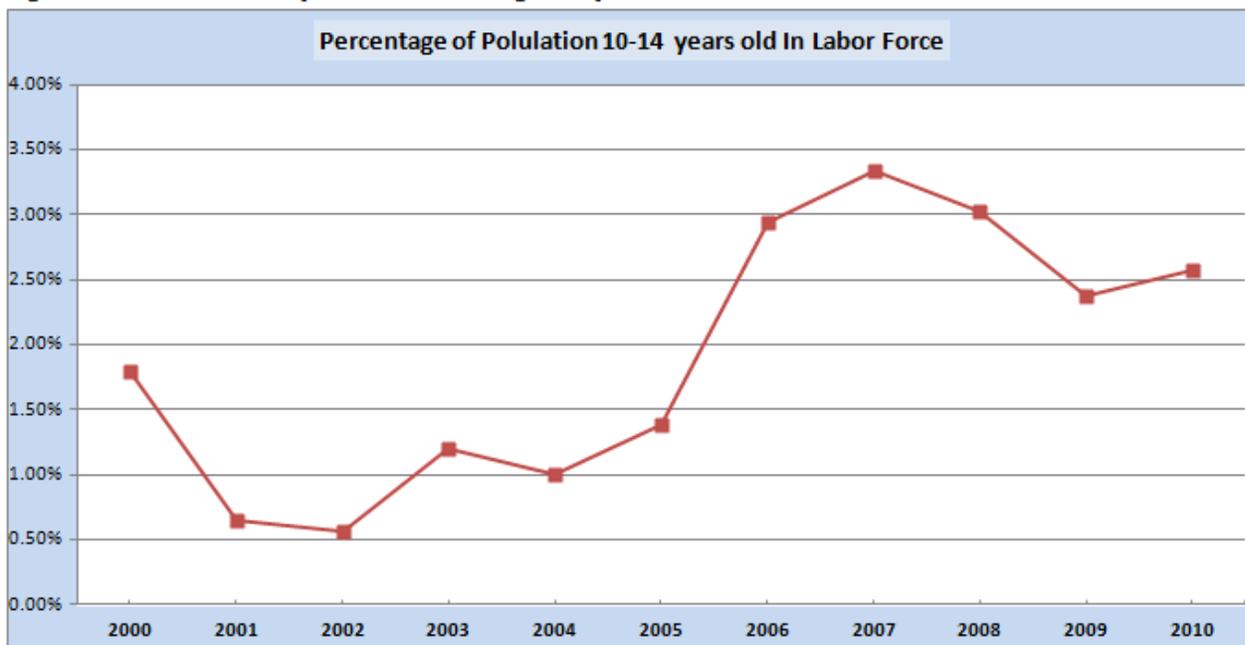
This study bases its assumption on the luxury axiom framework introduced by Basu and Van (1998), where a family will send the children to the labor market only if the family's income from non-child-labor sources drops very low. This framework represents the supply side of child labor. Based on this assumption, a rise in income for Palestinian families as a result of declining unemployment should be associated with a decline in child employment. Post 2000 literature about the Palestinian economy has linked the decline in Palestinian earnings with rising Palestinian unemployment. Periods that witness a rise in unemployment, and thus decline in income, are expected to show a rise in overall child labor participation. Inversely, periods with drops in unemployment are expected to show a drop in child labor participation.

Results

Overall Child Labor Trend

The trend below shows a significant drop in child labor participation after the start of the second Intifada of 2000. Since the Intifada represents an economic shock, we assume that the drop in child labor force participation from 2000 to 2002 is associated with this shock. This outcome is consistent with Al Kafri's findings (2002). Since some children were employed in the Israeli labor market prior to the Intifada, the closure and the restriction of entry for Palestinian workers to the Israeli market would naturally lead to reduction in child labor force participation. Also, the destruction of business in Palestine, either due to actual physical damage by the Israelis or due to decline in economic activities, could explain this change since most children are reported to work for their families. These results are also supported by the trend of unemployment among child laborers, where it increased from 6.1% in 2000 to 21.5% in 2002.

Figure 1. Labor Force Participation Rate for The Age Group 10 – 14 Years Old



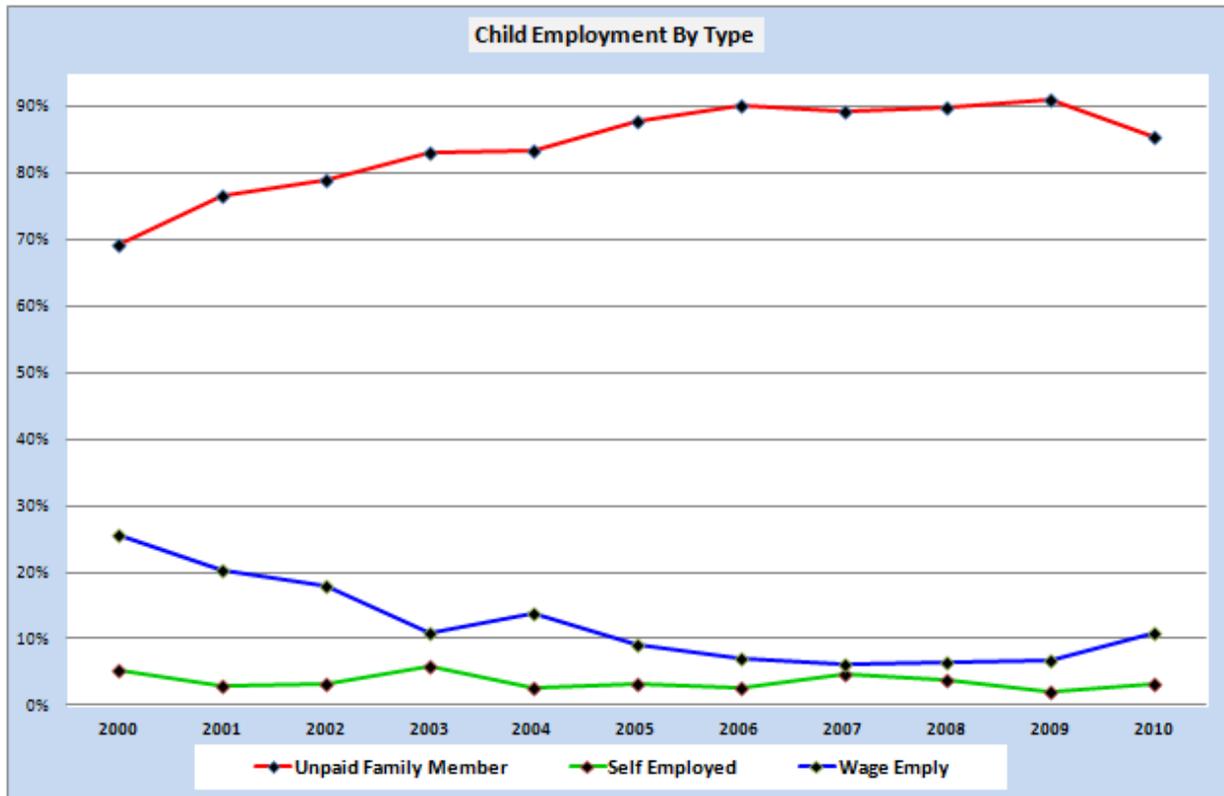
Source: Sources: Palestinian Central Bureau of Statistics (PCBS). *Labor Force Survey 2000 – 2010*.

Child Labor by Employment Type

On average, more than 80% of child laborers in the sample are classified as unpaid family members. More than 60% of child laborers work in the agriculture sector, 25% in commerce, and the rest in construction and manufacturing. As shown below in figure 2, there has been a decline in the rate of paid (wage employment) and self-employed child labor since 2000. This is consistent with the above results and could be explained as a consequence of the closure of the Israeli labor market. Also, the increase in the supply of child labor for family businesses coincides with a shift in labor force in Palestine to home production. This is also consistent with Nandi and Maio (2010) where the prolonged economic crisis induced parents to start their own businesses and thus increase the demand for their child labor. Consistent with the literature

reviewed in this study, the presence of family assets, mainly land, contributes to the increase of demand on child labor by parents during economic crisis. This is demonstrated below by the fact the agriculture sector is the main source for child labor.

Figure 2. Child Labor Participation by Employment Type



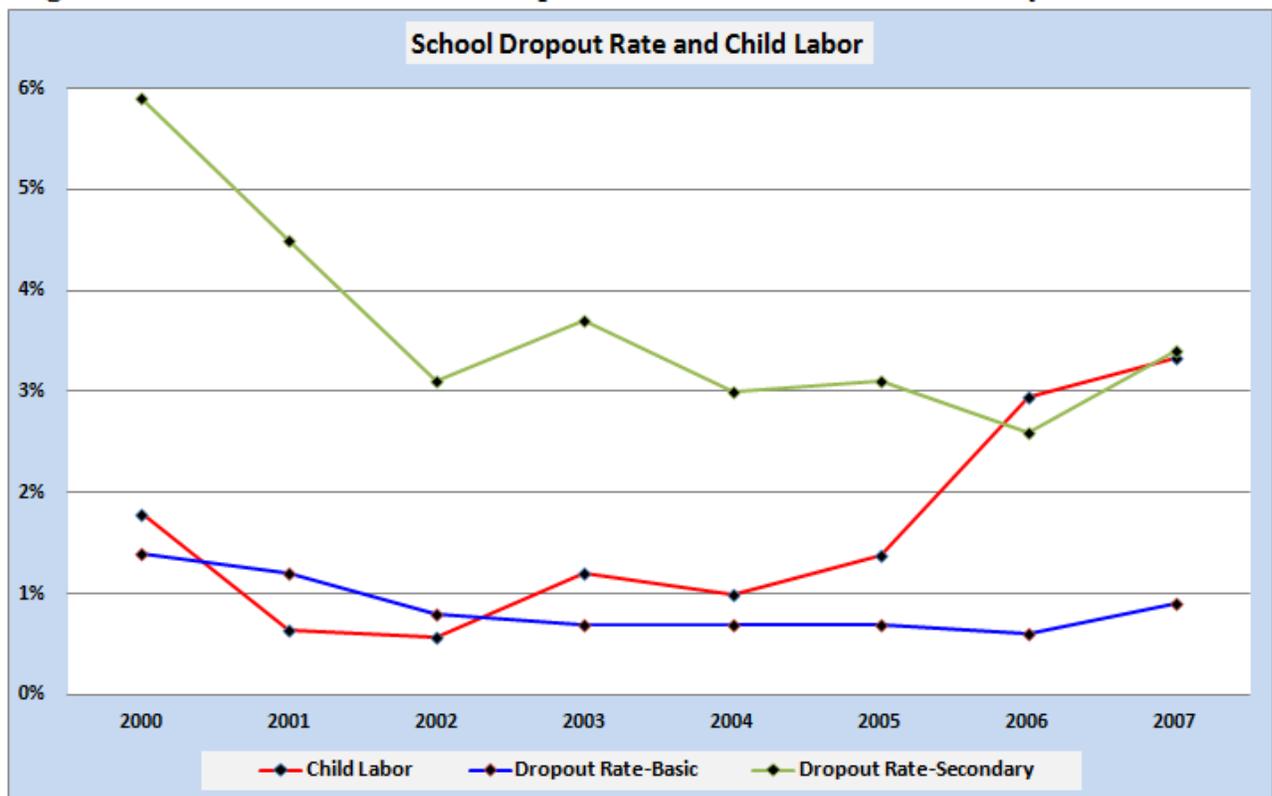
Source: Sources: Palestinian Central Bureau of Statistics (PCBS). *Labor Force Survey 2000 – 2010*.

Child Labor and School Drop Out Rate

Basic education dropout rates seem not to be affected by child labor force participation and it seems to follow a consistent decline, as shown in figure 3 below. This is due to historic increases in the basic educational attainment in Palestine, especially for girls. However, secondary education drop out seems to mirror child labor participation rates, especially for the period 2000 to 2005 as shown below in figure 3. The decline in dropout rates for the period 2000 to 2002

could be attributed to the shrinkage of the job market in both Israeli and Palestinian territories. The results for the year 2005 could be due to an increase of child participation in family owned business without the need to drop out of school to travel to work in the Israeli job market. Also, the period 2006-2007 resembles another economic shock resulting from Israel holding (not releasing) the assets of the Palestinian Authority for 16 months.

Figure 3. Child Labor Rate and Dropout Rate for Basic and Secondary Education



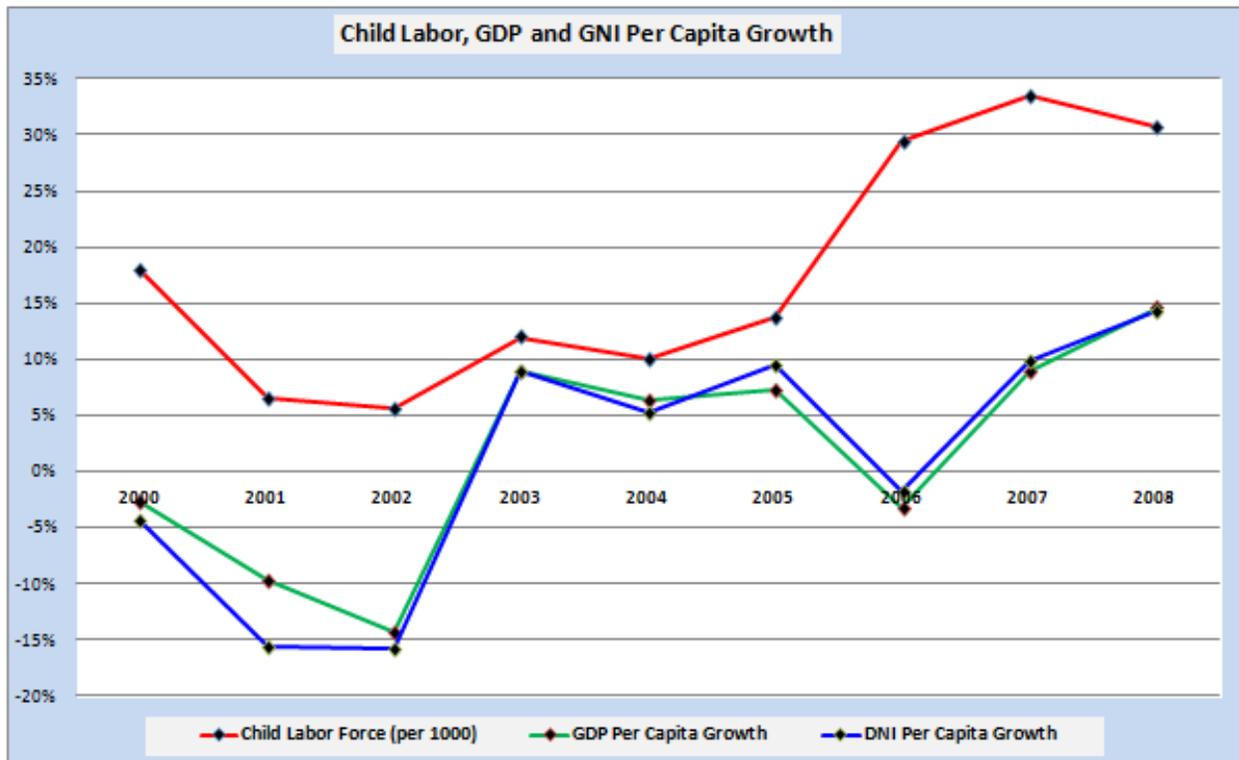
Source: Sources: Palestinian Central Bureau of Statistics (PCBS). *Labor Force Survey 2000 – 2010*

Child Labor and Income Indicators

It is interesting to notice from figure 4 below that child labor and GDP/GNI per capita follow similar trends for the period 2000 to 2008, with exception to the year 2006, which marks another drastic economic shock following the Palestinian election of Hamas and Israel's holding the

Palestinian funds for 16 months. This trend indicates that child labor increases when the overall income and output increases. These results are in sharp contrast with the common assumption that a reduction in family income induces an increase in child labor supply and an increase in family income would lead to a decrease in child labor. The primary explanation for this trend is that the increase in both GDP and GNI in Palestine are not sufficient enough to cause a positive effect on the Palestinian income level once high inflation is accounted for. An alternative explanation could be that child labor in Palestine is induced by positive economic indicators that stimulate families to start or grow their businesses.

Figure 4. Child Labor Trend and GDP/GNI Per Capita Growth Trend



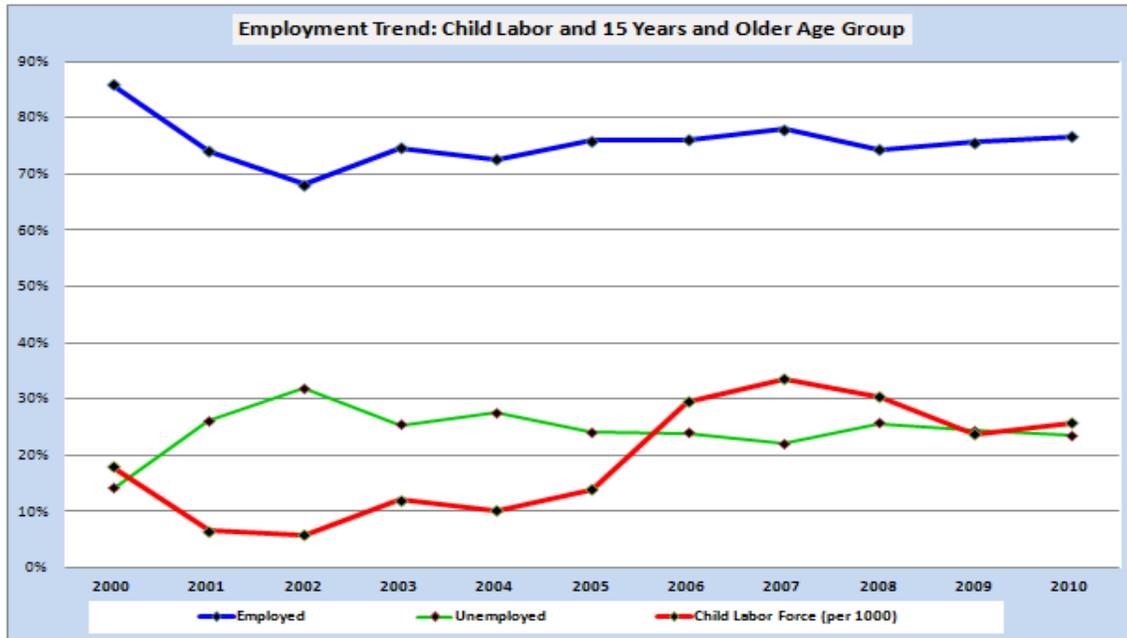
Source: Sources: Palestinian Central Bureau of Statistics (PCBS). *Labor Force Survey 2000 – 2010*. Palestinian Central Bureau of Statistics (PCBS). *Major National Accounts Variables for the years 1994-2008 at Current Price: 2008* (Ramallah, West Bank, Palestine).

Child Labor Trends and Overall National Employment Trends

Figure 5 below shows the trend of overall national employment/unemployment and the trend of child labor force participation. Contrary to our expectation, child labor force participation seems to follow the same pattern as employment for the older cohort (15 years of age and older). This indicates that they are affected by similar factors and/or motivations. According to the reviewed literature above, we expected the aggregate child labor force participation rate to move in the opposite direction of that of the older age group. An increase in adult unemployment is expected to increase child labor supply, and a decline in wage, whether it is associated with unemployment or not, is expected to positively affect (increase) child labor force supply. Since child labor force participation and employment trend follow similar patterns, it appears that here they are complementary to each other. Child labor is necessary for adult labor and adult labor is

dependent (especially home production) on child labor.

Figure 5. Child Labor Trend (per thousand) and National Employment/Unemployment Trend



Source: Sources: Palestinian Central Bureau of Statistics (PCBS). *Labor Force Survey 2000 – 2010*.

Discussion

It is clear from the above results that child labor force supply and participation in Palestine, especially for the first two years of the second Intifada, was affected by the same forces that impacted the overall labor force. These forces produced a significant shrinkage in the labor market in both the Israeli and occupied Palestinian territories. Child labor supply in Palestine started to increase after the first year of the second Intifada, which is consistent with the luxury axiom model since that was the period where national income and national output (GDP) started to decline. Child labor force participation in the labor market (particularly the local Palestinian labor market) seems to be affected by the same market forces as the employment/unemployment

of adults. In one sense this can be expected because most employment increases are a result of home production activities, where child labor is crucial to its sustainability. This is supported by the fact that most child labor in Palestine is classified as unpaid family member in the agriculture and trade sectors. What is not clear from this trend, however, is the relationship between child labor supply and adult labor force participation, mainly employment. The literature has found that a slight increase in family income and an increase in employment opportunity for adults reduce the need for children to work. Thus, children substitute the lost income due to reduction in earnings or loss of income by the adult member. However, the trend in Palestine seems different. It appears that child labor in Palestine is necessary for the employment the parents. In other words, the relationship between child labor supply and adults' labor supply in Palestine is complementary. This means that the success of the parents in their income generating activity from family owned businesses (land, shop, store, vending) is dependent upon the labor participation of their children. Such a relationship has not been found in the literature before. It is important to note that this is not a claim of causality, but rather an assumption that requires further investigation. In another perspective, it could be assumed that the increase in job opportunities motivates families to send their kids to work and that economic shocks in Palestine have no positive effect on child labor, and that child labor in Palestine is not a result or a consequence of the second Intifada. However, the trend of secondary education dropout rate does not support this view.

It is worth noting that the year 2006 and 2007 marks another major shock to the Palestinian economy. As a result of Palestinians electing Hamas during the 2006 election, the Israeli government held the Palestinian aid funds for 16 months. Thus, the Palestinian government was unable to pay its workforce and/or fund civil institutions. This period witnessed an increase in

deep poverty rate from 29.5% in 2005 to 34.5% in 2007. The outcome of the 2006 economic crisis could be the reason for child labor supply to double between 2005 and 2007. GDP and NIP per capita for the period 2005 to 2007 declined significantly. Also, secondary education increased in that same period. What is more interesting is that employment also increased in that crisis period. This could be due to the work for food programs introduced by donor countries to compensate for the loss of Palestinian income while Israel continued holding the Palestinian authority funds. The preceding discussion could lead to the conclusion that economic shocks in Palestine do not create child labor, but rather contribute to its magnitude.

Conclusion

The results of this study indicate that the economic shocks in Palestine as a result of Israeli policies have significant (positive) effects on child labor supply. The restriction of labor force movement and the closure of the Israeli labor market reduced child labor. On the other hand, the reduction of income, which leads to increase in poverty, following Israel's holding of the Palestinian aid funds, caused an increase of Palestinian child labor supply. Also, the decline in economic activity in the years following the start of the Intifada caused a steady increase in child labor supply. This is consistent with the assumption that the overall aggregate earnings of Palestinians has declined due to reduction on demand for Palestinian labor by Israeli employers. Also, the results show that most child labor force is classified as unpaid family members, and more than two thirds of child labor is in the agriculture and commerce/retail sectors. This indicates that most child labor is concentrated in family owned establishments (land, small retail businesses, shops, professional services). It could be assumed that the permanent reduction of

Palestinian labor to the Israeli market, especially after the Israelis substituted most of the Palestinian labor with foreign workers, has forced families to turn to home production activities to generate income. This fact could explain the increase in employment while the real GDP and GNI declined.

Consistent with the luxury axiom framework, Palestinian child labor increased in the years where overall national income, as a result of higher unemployment and reduction in economic activities, declined. However, the increase in national output and income, measured by GDP and GNI per capita did not result in reduction in the supply of child labor.

By general measure, increase in employment for the adult cohort did not decrease the demand for child labor. This is inconsistent with the general assumption that increase in employment opportunities, as an indicator of positive economic activity, reduces the need to supply the market with child labor or demand the children to work at home.

There seems to be no positive relationship between school dropout rates and child labor supply in Palestine. Basic education dropout rates show a consistently steady decline and seem not to be affected by changes in economic conditions. This is in contrast to the assumption that families pull kids out of school, especially at the basic level, more often during economic crisis. Similar trends are also found in secondary education. Thus, there seem to be no tradeoffs between child labor supply and children's education in Palestine.

The substitute literature does not seem to fit the trend of child labor force in Palestine. Children are not sent to work to make up the income lost as a result of their parents losing their jobs. Rather, it seems that the increase in home production and/or family owned businesses is dependent on the availability of child labor. Thus, we can assume that child labor in Palestine,

especially in current economic conditions is “complementary” to adult labor. The rise in adult employment, as well as child labor supply simultaneously could explain such a trend. Adult family members are willing to accept low paying jobs if they can complement that low income with child labor, probably working at family owned establishments or professional service businesses. Thus, child labor could be assumed as a necessary factor to the survival of Palestinian families struggling in the current economy.

In conclusion, it does not seem that the economic crisis in Palestine after the second Intifada contributed to the creation of child labor phenomenon. Due to reliance on the Israeli labor market and the effect of Israeli regulations on the Palestinian economic performance, Palestinians have always relied on child labor. What can be inferred from this study is that the recent economic crisis augmented the child labor supply. In other words, where adult members in the family are willing to accept low paying jobs, children are needed to run and operate family owned businesses and home production functions. While Palestinian families prefer for their children to devote all their time to school, they have no choice but to demand their child labor while investing in their future by keeping them in school. This unusual pressure on the child where he/she is expected to contribute to the family income AND stay in school is an unprecedented condition that has not been investigated in current literature. Both Palestinian families and their children are enduring these pressures as a result of the Israeli regressive measures. If such trends continue, the adverse effect on child’s educational performance will be more severe. This outcome has been noticed in the Gaza Strip, which has worse economic indicators than the rest of Palestine, according to the 2009 UNICEF report.

References

- Alban, Edward, and Mark Jackson. 1976. The Job Vacancy-Unemployed Ratio and Labor-Force Participation. *Industrial and Labor Force Review*. 29, 3: 412-419
- Al Kafri, Saleh. 2002. Impact of Israeli Measures on Palestinian Child Labor and Schooling. Palestinian Central Bureau of Statistics. <http://www.mafhoum.com/press7/185E12.pdf>
- Amin, Shahina, Shakil Quayes, and Janet Rives. 2006. Are Children and Parents Substitutes or Complements in the Family Labor Supply Decision in Bangladesh?. *The Journal of Developing Areas*.40, 1: 15-37.
- Aranki, Ted Nabil. 2004. The Effect of Israeli Closure Policy on Wage Earnings in the West Bank and Gaza Strip. Orebro University Working Paper No.4.
- Basu, Kaushik, and Zafiris Tzannatos. 2003. The Global Child Labor Problem: What Do We Know and What Can We Do? *The World Bank Economic Review*. 17, 2: 147-173
- Basu, Kaushik, Sanghamitra Das, and Bhaskar Dutta. 2007. Child Labor and Household Wealth: Theory and Empirical Evidence of an Inverted-U. IZA DP No. 2736.
- Basu, Kaushik. 1999. Child Labor: Cause, Consequence, and Cure, with Remarks on International labor Standards. *Journal of Economic Literature*. XXXXVII: 1083-1119.
- Basu, Kaushik, and Pham Van. 1998. The Economics of Child Labor. *The American Economics Review*. 88, 3: 412-427
- Brown, Drusilla, Alan Deardorff, and Robert Stern. 2001. Child Labor: Theory, Evidence, and Policy. Research Seminar in International Economics. Discussion Paper No. 474.
- Brown, Drusilla, Alan Deardorff, and Robert Stern. 2002. The Determinants of Child Labor: Theory and Evidence. Research Seminar in International Economics. Discussion Paper No. 486.
- Grootaert, Christiaan, and Ravi Kanbur. 1995. Child Labor. World Bank Policy Research Working Paper No. 1454.
- Hussain, Mahmood, and Keith Maskus. 2003. Child Labour Use and Economic Growth: An Econometric Analysis. *The World Economy*. 26, 7: 993-1017.
- Miaari, Sami, and Robert Sauer. 2006. The Labor Market Costs of Conflict: Closures, Foreign Workers, and Palestinian Employment and Earnings. *IZA*. No. 2282
- Nandi, Tushar, and Michele Di Maio. 2010. Conflict, Economic Shock and Child Labor in Palestine. HiCN Working Paper No. 74.
- Palestinian Central Bureau of Statistics.” Average Daily Wage in NIS for Wage Employees in the Agricultural Sector and all Activities in the Palestinian Territory by Year and Region 2005-2009).” http://www.pcbs.gov.ps/Portals/_pcbs/Various_Data/tab13.htm

Palestinian Central Bureau of Statistics.” Per Capita Indicators for the Years 1994-2008 at Current Prices”.http://www.pcbs.gov.ps/Portals/_pcbs/NationalAccounts/Percap%20cur.htm

Palestinian Central Bureau of Statistics. 2004.*Child Labour Survey 2004 Main Findings*. Ramallah: Palestinian Central Bureau of Statistics.
http://www.pcbs.gov.ps/Portals/_pcbs/PressRelease/lfs_child04e.pdf

Renaud, P.S.A, and J.J Siegers. 1984. Income And Substitution Effects in Family Labour Supply. *De Economist*. 132, 3: 350-366

Sabella, Steve. 2004. *The Children of Palestine in the Labour Market*. UNICEF. Ramallah: Palestine.

Schandy, Norbert, and Eric Edmonds. 2008. Poverty Alleviation and Child Labor. World Bank Policy Research Working Paper N. 4702.

Sharif, Mohammed. 2000. Inverted “S”- The complete neoclassical labour-supply function. *International Labour Review*. 139, 4: 409-435

Suryahadi, Asep, Agus Priyambada, and Sudarno Sumarto. 2005. Poverty, School, and Work: Children during the Economic Crisis in Indonesia. *Development and Change*. 36, 2: 351-373.

Uhler, Russell, and Roslyn Kunin. 1972. A Theory of Labor Force Participation. *Industrial Relations: A Journal of Economy and Society*. 11, 1: 107-114.

UNISEF. 2009. At Glance: Occupied Palestinian Territory. Growing Poverty in Gaza Pushing Children to Work. http://www.unicef.org/infobycountry/oPt_50318.html?q=printme

UNRWA. Labor Market Briefing West Bank-Second Half 2010. 2011.
<http://www.unrwa.org/userfiles/201106082849.pdf>