Child Labour and Economic Development

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ABSTRACT

The topic discussed in this thesis concerns a reality that closely lies at my heart: child labour, in fact, does not just represent an obstacle towards economic and social development, but first of all constitutes a violation of human rights. It is a plague that still continues to affect not only the world poorest countries, in which high rates of illiteracy, misery and the presence of deeply rooted cultural attitudes make child labour a challenging problem to eradicate, but also the developing ones.

In the first part of the dissertation I deal with the international legislation concerning child labour, from its definition and causes to the ILO and UN Conventions and Protocols aimed at protecting children from all forms of exploitation and illicit activities. In particular I pay major focus on the ILO Minimum Age Convention No. 138 (1973), the ILO Worst Forms of Child Labour Convention No. 182 (1999) and the UN Convention on the Rights of the Child (1989), the three most important documents on children rights. I also examine in broad terms the legal frameworks characterising different geographic areas - namely EU and Eurasia, Asia and the Pacific, North of America, Latin America and the Caribbean, Sub-Saharan Africa, Middle East and North Africa - and which programmes have been implemented by governments in order to address child labour issue. Furthermore, I analyse more in detail how child labourers are involved in the production process in some of the most commonly used goods at global level, such as cotton, sugarcane, cocoa and gold.

In the second part I describe how a sustained economic development reduces child labour over time, and the results suggest serious commitment by governments to take the necessary measures aimed at curtailing the threat of child labour.
1. INTRODUCTION

1.1) Definition of child and child labour

Under international law, the legal parameter currently used worldwide to define what “a child” is can be found in Article 1 of the United Nations Convention on the Rights of the Child (CRC), which establishes that a child means “every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier”. Based on this definition, the CRC proceeds, in Article 32, by pushing governments to take the necessary legislative, administrative, social and educational measures to protect children from economic exploitation and any work that is dangerous or might damage their health or their education. More precisely, child labour refers to those activities that:

- are mentally, physically, socially or morally dangerous and harmful to children;
- deprive them of the opportunity to attend school;
- oblige them to leave school prematurely;
- require them to attempt to combine school attendance with excessively long and heavy work.

Thanks to continuous efforts at both international and local level, recent global data show that the number of children involved in child labour at global level has significantly declined from 245 million in 2000 to an estimated of 168 million in 2012. Consequently, also the number of children performing hazardous activities has drastically diminished during this lapse of time. Data describing this phenomenon were sourced from the report “Marking Progress Against Child Labour” prepared by the International Labour Organization, and are presented in the following Tables.
We may notice that the decline in child labour was greatest during the period 2008-2012, and this could be surprising if we consider that there were fears that the difficulties generated by the global crisis of 2009-2009 would result in an increase in the number of families relying on child labour in order to meet their basic needs. This has not occurred for at least two main reasons. First, developing economies have generally been quicker to rebound from its consequences, although often on a lower growth path. Second, for older children, it is likely that the slower economic growth that has followed the crisis has decreased labour demand, including demand for workers of 15-17 years of age.

The trend previously described can be deducted also by looking at Table 2, which shows the exceptional changes in the number of child workers by region: in Sub-Saharan Africa, for example, the number of child workers has decreased in four years of more than 6 million, in Asia and the Pacific of almost 36 million. However, child labour still remains a major concern in large parts of the world. The most critical situation is registered in Sub-Saharan Africa, with 21.4% of the total child population engaged in child and 10.4% involved in hazardous work; in Asia and the Pacific the number of child labourers is much higher, with almost 78 million of children engaged, but we have to keep into consideration that this estimate corresponds to “only” 9.3% of the total child population. In Latin America and the Caribbean, instead, the number of child labourers amounts to 13 million (8.8%), while in the Middle East and North Africa it amounts to 9.2 million (8.4%).
Table 2: Regional distribution of child labour, 5-17 years age group, 2008-2012

<table>
<thead>
<tr>
<th>REGION</th>
<th>2008 Child Labour ('000)</th>
<th>2008 Hazardous Work ('000)</th>
<th>2012 Child Labour ('000)</th>
<th>2012 Hazardous Work ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASIA AND THE PACIFIC</td>
<td>113,607</td>
<td>48,164</td>
<td>77,723</td>
<td>33,860</td>
</tr>
<tr>
<td></td>
<td>13.3%</td>
<td>5.6%</td>
<td>9.3%</td>
<td>4.1%</td>
</tr>
<tr>
<td>LATIN AMERICA AND THE CARIBBEAN</td>
<td>14,125</td>
<td>9,436</td>
<td>12,505</td>
<td>9,436</td>
</tr>
<tr>
<td></td>
<td>10.0%</td>
<td>6.7%</td>
<td>8.8%</td>
<td>6.8%</td>
</tr>
<tr>
<td>SUB-SAHARAN AFRICA</td>
<td>65,064</td>
<td>9,638</td>
<td>59,031</td>
<td>38,736</td>
</tr>
<tr>
<td></td>
<td>25.3%</td>
<td>15.1%</td>
<td>21.4%</td>
<td>10.4%</td>
</tr>
<tr>
<td>MIDDLE EAST AND NORTH AFRICA</td>
<td>----</td>
<td>----</td>
<td>9,244</td>
<td>5,224</td>
</tr>
<tr>
<td></td>
<td>----</td>
<td>----</td>
<td>8.4%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Source: ILO, 2013

ILO also provides estimates regarding the sectors where child labourers are found. Table 3 shows that agriculture, one of the most dangerous sectors (together with construction industry and mining) in terms of work-related fatalities, non-fatal accidents and occupational diseases, remains by far the most important field where child labourers can be found, with approximately 60% of young boys and girls engaged in labour. However, the situation is not less severe in services (32%) and industry (8%). Generally, the majority of child labourers (67.5%) are unpaid family members, and in agriculture the percentage is even higher, usually combined with very early entry into work, sometimes between 5 and 7 years of age. There seems to have been a rise in the relative share of children employed in services in recent years: the percentage indeed rose from 26 per cent in 2008 to 32 per cent in 2012. Some of this increase could be due to the fact that a portion of child labourers fell in the so-called “not defined” category in 2012, highlighting the necessity of performing a better measurement of children in services sector, in particular those in the informal economy.
Table 3: Distribution of child labour by sector, 5-17 years age group, 2008 and 2012

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>YEAR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>('000)</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>('000)</td>
<td>%</td>
</tr>
<tr>
<td>AGRICULTURE</td>
<td>129,161</td>
<td>60.0</td>
<td>98,422</td>
</tr>
<tr>
<td>INDUSTRY</td>
<td>15,068</td>
<td>7.0</td>
<td>12,092</td>
</tr>
<tr>
<td>SERVICES</td>
<td>55,109</td>
<td>25.6</td>
<td>54,250</td>
</tr>
<tr>
<td>(Of which domestic work)</td>
<td>(10,557)</td>
<td>(4.9)</td>
<td>(11,528)</td>
</tr>
</tbody>
</table>

Source: ILO, 2013

In Table 4 we can see that child labour involvement is much higher among boys than girls for the 5-17 years age group as a whole (99.8 million boys versus 68.2 million girls). However, it is likely that these figures might underestimate girls’ involvement in child labour relative to that of boys as they do not reflect involvement in household chores, a form of child labour that is not included in the global estimates.

Table 4: Distribution of child labour by gender, 5-17 years age group, 2000-2012

<table>
<thead>
<tr>
<th>SEX</th>
<th>CHILD LABOUR</th>
<th>HAZARDOUS WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>('000)</td>
<td>('000)</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>BOYS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>132,200</td>
<td>95,700</td>
</tr>
<tr>
<td></td>
<td>16.8</td>
<td>12.2</td>
</tr>
<tr>
<td>2004</td>
<td>119,575</td>
<td>74,414</td>
</tr>
<tr>
<td></td>
<td>14.9</td>
<td>9.3</td>
</tr>
<tr>
<td>2008</td>
<td>127,761</td>
<td>74,019</td>
</tr>
<tr>
<td></td>
<td>15.6</td>
<td>9.0</td>
</tr>
<tr>
<td>2012</td>
<td>99,766</td>
<td>55,048</td>
</tr>
<tr>
<td></td>
<td>12.2</td>
<td>6.7</td>
</tr>
<tr>
<td>GIRLS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>113,300</td>
<td>74,800</td>
</tr>
<tr>
<td></td>
<td>15.2</td>
<td>10.0</td>
</tr>
<tr>
<td>2004</td>
<td>102,720</td>
<td>53,966</td>
</tr>
<tr>
<td></td>
<td>13.5</td>
<td>7.1</td>
</tr>
<tr>
<td>2008</td>
<td>87,508</td>
<td>41,296</td>
</tr>
<tr>
<td></td>
<td>11.4</td>
<td>5.4</td>
</tr>
<tr>
<td>2012</td>
<td>68,190</td>
<td>30,296</td>
</tr>
<tr>
<td></td>
<td>8.9</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: ILO, 2013
Finally, looking at Table 5, we may also notice that, unsurprisingly, the highest percentage of child labour was registered in low income countries: 22.5% of child workers versus 9% in lower middle income countries and 6.2% in upper middle income ones. When seen in absolute terms, however, the picture is quite different, since lower middle income countries host the highest number of child labourers. These results clarify that while income and poverty are important factors affecting of child labour, they are not the only reasons families send their children to work. This in turn indicates that actions oriented towards raising national and family income levels are fundamental, but it will not be sufficient in and of itself to eradicate child labour.

<table>
<thead>
<tr>
<th>NATIONAL INCOME CATEGORY</th>
<th>CHILD LABOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>('000)</td>
<td>%</td>
</tr>
<tr>
<td>LOW INCOME</td>
<td>74,394</td>
</tr>
<tr>
<td>LOWER MIDDLE INCOME</td>
<td>81,306</td>
</tr>
<tr>
<td>UPPER MIDDLE INCOME</td>
<td>12,256</td>
</tr>
</tbody>
</table>

Source: ILO, 2013

### 1.2) Causes of child labour

As reported by the World Bank’s latest estimates, in 2013 10.7% (767 million people) of the world’s population lived in condition of extreme poverty (less than 1.90$ per day\(^1\)), compared to 12.4% in 2012. More than 80% of the poor are concentrated in Sub-Saharan Africa and South of Asia. Furthermore, more recent data can be found in Our World In Data, an online publication developed at the University of Oxford, according to which the number of people living with less than 1.90$ a day in 2015 was 705,549,321.5 (around 10.07% of the total world population), showing a decrease with respect to the previous years. These estimates tell us that, despite the evident progresses, poverty is still a major concern at global level and, consequently, the root cause of the manifold reasons behind child labour indicated below:

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\(^1\)Poverty is measured using the US$1.90-a-day 2011 purchasing power parity (PPP) poverty line
• need to integrate household income to meet basic needs;

• limited availability of schools, especially in rural areas, and perceived irrelevance of education;

• use of child labour to repay debts, due to the limited access to financial services
• low awareness of the hazards related to child labour;

• children are a cheap source of labour: contractors are well aware that children can be exploited and forced to work for much less than the minimum wage;

• the presence of AIDS throughout many developing countries has resulted in an enormous number of orphans who are forced to become their own breadwinners.

To these severe factors, we must further add issues such as fragmentation of the labour force, low capacity of labour inspectors to cover rural areas, frequent absence of formal labour contracts, a lack of children protection laws or scarce resources to ensure their effective enforcement. Indeed, even when laws or codes of conduct exist, they are often violated: for example, the manufacture and export of products often involve multiple layers of production and outsourcing, which can make it difficult to monitor who is performing labour at each step of the process. In many other cases, child labour laws around the world include exemptions that allow for child labour to persist in certain sectors, such as agriculture or domestic work. Finally, it is fundamental to take into consideration the cultural context in which child labour takes place: in family farms and pastoral communities, for example, the full involvement of children in certain activities such as herding livestock - even for long periods - is very common, and has deep historical and cultural roots.
2. LEGISLATIVE FRAMEWORK

2.1) International legislation

There are several ways in which international organizations such as the International Labour Organization (ILO) and the United Nations (UN) prove to play a crucial role in the fight against child labour. Among their manifold tasks, in fact, they are broadly committed in: sensitizing public opinion about child labour; promoting an efficient cooperation among governments, international organizations and the various institutions sharing the common goal of improving children’s life; promulgating international legal standards which countries can promote and ratify; and encouraging countries to conform to them by offering technical cooperation and assistance.

The most comprehensive document on the rights of children is the Convention on the Rights of the Child (CRC). The Convention is the longest United Nations human rights treaty in force and it not only deals with the implementation of children’s rights in peacetime, but also in situations of armed conflict. The CRC is primarily concerned with four aspects of children’s rights (“the four ‘P’s’”): participation by children in decisions affecting them; protection of children against discrimination and all forms of exploitation; prevention of harm to them; and provision of assistance to children for their basic needs. In particular, in its Article 32, the CRC states that States Parties agree to take the necessary legislative, administrative, social and educational measures to ensure children their right to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with their education. To this end, States Parties shall:

(a) provide for a minimum age or minimum ages for admission to employment;

(b) provide for appropriate regulation of the hours and conditions of employment;

(c) provide for appropriate penalties or other sanctions to ensure the effective enforcement of the article.

This Convention is supplemented by two protocols: the Optional Protocol on the Sale of Children, Child Prostitution and Child Pornography, and the Optional Protocol to the
Convention on the Rights of the Child on the Involvement of Children in Armed Conflict. The first one was adopted by the United Nations General Assembly in 2000 and entered into force on 18 January 2002; so far, 173 states signed the protocol, while other nine countries have signed but not ratified it. The Protocol provides countries with detailed requirements, as specified in Article 1, to stop the abuse and sexual exploitation of children, urging them to prohibit practices such as the sale of children, child prostitution and child pornography. It also prevents children from being sold for non-sexual purposes—such as other forms of forced labour, illegal adoption and organ donation. Moreover, the Protocol provides assistance to the victimized children in the criminal justice process, ensuring the protection of their best interests. For purposes of prevention and reparation of offenses, the victims must have access to procedures to seek compensation for damages from those legally responsible (Article 9(4)). The second Protocol integrating the Convention is the Optional Protocol to the Convention on the Rights of the Child on the Involvement of Children in Armed Conflict, adopted on 25 May 2000 and ratified by 165 States (plus another 14 States that have signed but not ratified it). It entered into force on 12 February 2002. The Protocol reaffirms in its Preamble that “the rights of children require special protection,” notes “the harmful and widespread impact of armed conflict on children,” and condemns their being targeted in such situations. The Protocol extends the minimum age requirement for direct participation in armed conflict to eighteen (Articles 1 and 2, respectively) and forbids rebel or other non-governmental armed forces “under any circumstances,” to recruit or to use in hostilities persons under that age (Article 4). It does not prescribe the age eighteen minimum for voluntary recruitment, but requires States Parties to raise the minimum age for it from fifteen (as set out in Article 38 of the CRC) to sixteen years of age. Moreover, in Article 6, it requires States Parties to take all feasible measures to ensure the demobilization or release from service of children recruited into armed conflict or used in hostilities and, when necessary, to accord “all appropriate assistance” for the children’s rehabilitation and social reintegration.

We could mention a third protocol dealing with child labour in its worst forms, not related to the Convention on the Rights of the Child but supplementing the Convention against Transnational Organised Crime. Such protocol, the Protocol to Prevent, Suppress and Punish
Trafficking in Persons, especially Women and Children, was adopted by the United Nations General Assembly in 2000 and entered into force on 25 December 2003. It has been ratified by 170 parties. The Protocol sets out in Article 3(a) the first common international definition of "trafficking in persons" as “the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation”. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs”. The Article, in subparagraph (c) also establishes that “the recruitment, transportation, transfer, harbouring or receipt of a child (person under 18 years of age) for the purpose of exploitation shall be considered ‘trafficking in persons’ even if this does not involve any of the means set forth in subparagraph (a)”. Moreover, the Protocol pushes States to take urgent measures to provide for the physical, psychological and social recovery of victims of trafficking in persons, including, in appropriate cases, in cooperation with non-governmental organizations or other elements of civil society.

International labour standards regulating child labour are elaborated in the ILO’s annual International Labour Conference by delegates representing governments, employers and workers from the ILO member states with the aim of setting out basic principles and rights at work. They are either conventions, which are legally binding international treaties that may be ratified by member states, or recommendations, which serve as non-binding guidelines. In many cases, a convention defines the basic principles to be implemented by ratifying countries, while a related recommendation supplements the convention by providing more detailed information on how it could be applied. Once a standard is adopted, member states are required under the ILO Constitution to submit them to their competent authority (normally the parliament) for consideration. In the case of conventions, this means consideration for ratification. If it is ratified, a convention generally comes into force for that country one year after the date of ratification, and ratifying countries commit themselves to applying the convention in national law and practice and reporting on its application at
regular intervals. The two most important labour standards dealing with child labour are the Minimum Age Convention No. 138 (1973) and the Worst Forms of Child Labour Convention No. 182 (1999), both integrated by the Minimum Age Recommendation No. 146 and the Worst Forms of Child Labour Recommendation No. 190 (1999) respectively. As specified in the ILO Declaration on Fundamental Principles and Rights at Work (1998), the ILO Conventions No. 182 and No. 138 on child labour are considered as “core” Conventions. This means that all ILO Member States, even if they have not ratified the Conventions, have an obligation arising from the very fact of membership in the Organization to respect, to promote and to realize the principles concerning such fundamental rights.

Nonetheless, not all work performed by children should be classified as child labour and targeted for elimination. For example, children's or adolescents’ participation in work that does not affect their health and personal development or interferes with their schooling, is generally regarded as being something positive. This includes activities such as helping parents around the home, assisting in a family business or earning pocket money outside school hours and during school holidays. These kinds of activities contribute to children’s development and to the welfare of their families; they provide them with skills and experience and help to prepare them to be productive members of the society during their adult life. On the contrary, work hazardous to children and preventing their physical, mental, spiritual, moral or social development is not acceptable under any circumstance. That is why it is so important to understand what we mean by child labour, why it happens, and what can be done to eliminate it. To this purpose, the ILO Convention No. 138 (ratified by 169 out of 187 Member Countries) in its Articles 2, 3 and 7 marks out minimum age for different types of employment:

- for ordinary work, the minimum age is set at 15 years, and not before the end of compulsory education;

- for admission to any type of employment or work which by its nature or the circumstances in which it is carried out is likely to jeopardise the health, safety or morals of young persons (hazardous work), the minimum age shall not be less than 18 years;
• for light work, which refers to those kinds of work that not likely to be harmful to their health or development and to prejudice their attendance at school, their participation in vocational orientation or training programmes approved by the competent authority or their capacity to benefit from the instruction received, the minimum age is set at 13 years.

When ratifying, countries have the option to designate a higher age (e.g. 16) or, in the case of Members whose economy and educational facilities are insufficiently developed, namely developing countries, an age lower by one year than the standard (e.g. 14 as the minimum age for regular work and 12 for light work). For this alteration, the Convention only requires a consultation with employers’ and workers’ organizations – where such exist.

ILO Convention No. 182, ratified by 174 Member Countries, has universal coverage and applies to all sectors of the economy and status in employment (for example including unpaid family labour on family farms) with no exception possible. It concerns the worst forms of child labour, and its aim is to ensure that children in all countries, irrespective of their level of development, are protected from extreme forms of work. Such kinds of child labour are described in Article 3 as:

(a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict;

(b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances;

(c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties;

(d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.

Article 3(d) deserves particular focus, since it refers to the so called “hazardous work”, though without precisely defining what it consists of. Indeed, as established in Article 4, the “list of hazardous work” has be determined (and periodically revised as necessary) by
national laws or regulations or by the competent authority, after consultation with the organizations of employers and workers concerned, taking into consideration relevant international standards. Guidance on how to appropriately define hazardous work is provided by the ILO Worst Forms of Child Labour Recommendation No. 190 that, in addition to introducing younger children and the girl child as the most vulnerable groups, in its section “Hazardous Work” urges Member States to give consideration to:

- work that exposes children to physical, emotional or sexual abuse;
- work underground, under water, at dangerous heights or in confined spaces;
- work with dangerous machinery, equipment and tools, or that involves the manual handling or transport of heavy loads;
- work in an unhealthy environment, which may, for example, expose children to hazardous substances, agents or processes or to temperatures, noise levels, or vibrations damaging to their health;
- work under particularly difficult conditions such as work for long hours or during the night or work that does not allow for the possibility of returning home each day.

The ratifying Member States are obliged to monitor the implementation of the Convention’s provisions, and must ensure the access to a free elementary education in order to avoid child labour.

A third ILO Convention directly dealing with child labour is the Domestic Workers Convention No. 189 (2011) which, in its Article 4, underlines that Member States shall set a minimum age for domestic workers consistent with the provisions of the Minimum Age Convention No. 138, and the Worst Forms of Child Labour Convention No. 182, and not lower than that established by national laws and regulations for workers generally. It also pushes Members to take measures to ensure that work performed by domestic workers who are under the age of 18 and above the minimum age of employment does not deprive them of compulsory education, or interfere with opportunities to participate in further education or vocational training.
Moreover, on 18 June 1998, the International Labour Conference at its Eighty-sixth Session adopted the Declaration on Fundamental Principles and Rights at Work, which states that all Members, even if they have not ratified the various ILO Conventions, have the obligation, arising from the very fact of membership in the Organization, to respect, to promote and to realize the following principles:

(a) freedom of association and the effective recognition of the right to collective bargaining;

(b) the elimination of all forms of forced or compulsory labour;

(c) the effective abolition of child labour; and

(d) the elimination of discrimination in respect of employment and occupation.

2.2) Legislation per geographic area

In this section I wish to conduct a regional analysis regarding which measures have been implemented at legislative level in recent years in Europe and Eurasia, Asia and the Pacific, North of America, Latin America and the Caribbean, Sub-Saharan Africa, Middle East and North Africa. Relevant information have been sourced from the report “Findings on the Worst Forms of Child Labour” drafted by the U.S. Department of Labour in 2015.

2.2.1) EUROPE AND EURASIA

Regional statistics about the number of children engaged in child labour are not available. Concerning the legislative framework, under the European Union law, there is no single, formal definition of “child” set out in any of the treaties, their subordinate legislation or case law. Under EU law, the definition of a child can vary considerably, according to the regulatory context. For example, EU law governing the free movement rights of EU citizens and their family members defines “children” as “direct descendants who are under the age of 21 or are dependent”, essentially endorsing a biological and economic notion as opposed to one based on minority. Some EU laws assign different rights to children according to their age: for example, Directive 94/33/EC on the protection of young people at work (Young
Workers Directive), which regulates children’s access to and conditions of formal employment across the EU Member States, distinguishes between “young people” (all persons under the age of 18 years), “adolescents” (any young person of at least 15 years of age, but less than 18 years of age – who is no longer subject to compulsory full-time schooling) and “children” (defined as those under the age of 15 – who are largely prohibited from undertaking formal employment). Other areas of EU law, particularly those areas in which EU action complements that of Member States (such as social security, immigration and education), defer to national law to determine who is a child. In these contexts the CRC definition is generally adopted. Concerning forced labour, under EU law slavery, servitude, forced or compulsory labour are prohibited in Article 5 (2) of the EU Charter of Fundamental Rights, while the employment of children is forbidden in Article 32 (however, Directive 94/33/EC remains the main legal instrument prohibiting child labour). Only in exceptional circumstances States are allowed to set the minimum age for employment below the minimum school leaving age (Article 4 (2)) and States have to ensure that young people admitted to work benefit from appropriate working conditions(Articles 6 and 7). Furthermore, children can only be employed for certain activities, such as light domestic work or social and cultural activities, as stated in Articles 2 (2) and 5. In Section III, the directive also sets out specific protection measures to be taken in cases of child labour, among which: the number of working hours, conditions under which work can be performed during the night and the minimum amount of rest period.

Considering European and Eurasian area in general, we can find child labour, even in its worst forms, predominantly in agriculture and street work, commercial sexual exploitation and forced begging, each sometimes as a result of human trafficking. Countries in the region made meaningful efforts to implement social programs to address poverty, including conditional cash transfer programs, the strengthening of the legal frameworks in order to expand minimum age protections for children, and the improvement of criminal law enforcement in sectors where children are most vulnerable. Moreover, new efforts were made in Armenia, Georgia and Ukraine to collect statistics on child labour and expand minimum age protections for children, but failed to remedy significantly detrimental laws that were established in previous years that delayed advancement in eliminating the worst
forms of child labour. More in detail, Armenia conducted a National Child Labour Survey, and in April 2015 the Government introduced an amendment to the Law on Education that will increase the compulsory education age to 19 years. Furthermore, in June 2015, the National Assembly adopted changes to the Labour Code that introduced regulations for children’s work in the entertainment industry and included restrictions on the number of working hours acceptable for children of all ages. However, the Government failed to remedy the uncertainty regarding its authority to inspect and enforce child labour laws caused by its 2014 repeal of Article 34 of the Labour Code, which previously established the Government’s authority to conduct routine labour inspections, causing the Government to have an insufficient labour inspection mechanism. Georgia conducted a National Child Labour Survey as well, amending the Labour Code to introduce restrictions on the number of hours children are allowed to work, and developing a new methodology for identifying vulnerable children. Despite these positive initiatives, the Government failed to remedy the abolition of its labour inspectorate, due to its adoption of the current Labour Code in 2006, obstructing the elimination of the worst forms of child labour. Concerning Ukraine, Government made efforts by providing training to a significant number of law enforcement personnel on the application of laws against child trafficking, adopting a new State Program for Countering Human Trafficking, and developing a comprehensive set of methodologies on human trafficking prevention for use in schools. However, Ukraine enacted legislation in 2014 that required the State Labour Service to request approval from the Cabinet of Ministers before conducting any inspection not related to a criminal investigation. This bureaucratic restriction effectively imposed a moratorium on inspections during the reporting period. In general, exploitive child labour still persists due to inadequate resources allocated to the enforcement of child labour laws and unequal access to education for minorities and other disadvantaged children. Unfortunately, challenges related to the enforcement of child labour laws are present also in Azerbaijan and Turkey, whose number of labour inspectors is not sufficient to provide adequate labour force coverage according to the ILO’s recommendation. Labour inspectorates in Kosovo, Moldova, and Serbia lack funding for training, equipment, and transportation for inspectors, which compromises the quality of inspections.
A particularly sensitive position is held by Turkey, that is experiencing an increase in child labour as a result of the huge number of Syrian refugees that entered the country during the last five years. Although the Government took important steps to increase Syrian refugee children’s access to education and other services, many of them are still at risk of exploitation in the worst forms of child labour. In 2015 there were increased reports of children, particularly Syrian refugees, engaged in manufacturing work – such as the production of shoes, furniture, and textiles – for long hours and extremely low wages.

2.2.2) ASIA AND THE PACIFIC

Countries in Asia and the Pacific made meaningful efforts to strengthen legal frameworks to prohibit hazardous work for children, for example by improving sub-regional cooperation to combat child labour in South Asia, Southeast Asia, and the Pacific Islands, and providing cash transfers and food support programs for children of impoverished households. For instance, Pakistan’s Khyber Pukhtunkhwa province adopted hazardous work prohibitions for children and created a mechanism for receiving labour complaints. Cambodia adopted new regulatory procedures to prevent children ages 15 to 18 from engaging in hazardous work. In addition, several countries in the region increased the capacity of law enforcement agencies to fight child labour. Bangladesh increased its number of labour inspectors and Fiji significantly increased the number of labour inspections conducted during the year. Cambodia and the Kyrgyz Republic strengthened procedures for identifying children vulnerable to the worst forms of child labour and Nepal deployed police personnel to identify incidents of child trafficking following the April 2015 earthquake. The South Asia Initiative to End Violence Against Children (SAIEVAC) finalized, in countries in the South Asia Association for Regional Cooperation, a Regional Action Plan to End Child Labour, whose overall goal is to implement the regional strategy to prevent and eliminate all forms of child labour with a priority on the worst forms of child labour, with the special focus on the situation of girls and excluded or vulnerable populations. Moreover, SAIEVAC will undertake regional mapping exercise to ascertain the situation of the child labour in South Asia in relation to existing laws and policies. This will enable to make an informed decision with regard to various legal reforms and policies required to mainstream and make a coherent
intervention. Kiribati, Samoa, and the Solomon Islands participated in the ILO-supported Pacific Sub-Regional Child Labour and Trafficking Program, which expanded best practices learned from the ILO’s child labour program in Fiji, such as establishing an inspection unit focused on child labour. ASEAN countries, including Cambodia, Indonesia, the Philippines, and Thailand, adopted the Convention Against Trafficking in Persons, Especially Women and Children, which seeks to improve regional coordination on the investigation and prosecution of human trafficking cases and promote assistance for victims. However, many countries in the region still have strong barriers to education for child labourers, an insufficient number of labour inspectors, and inadequate legal protection against the worst forms of child labour, particularly against commercial sexual exploitation. For example, Bhutan has no compulsory age for education, and the law does not sufficiently prohibit commercial sexual exploitation, as the possession of child pornography is not criminally prohibited. Afghan law does not comprehensively protect children from commercial sexual exploitation: indeed, while the 2009 Elimination of Violence Against Women Act protects girls from forced prostitution, it does not mention boys. Moreover, although forced labour and child trafficking are illegal, debt bondage is not criminalized. Both Bengali and Cambodian laws do not sufficiently prohibit the use of children in pornographic performances and production of drugs. A similar environment can be found in Nepal, where children are trafficked within the country and to India, the Middle East, Asia, and Sub-Saharan Africa for commercial sexual exploitation, and where compulsory age for education is inexistent. Nepalese legal framework does not specifically prohibit slavery as a form of forced labour, and while the Children’s Act criminally prohibits the use of children in the distribution of drugs, the law does not prohibit the use of children in the production process. Concerning Pakistan, whose number of child labourers amounts to almost 2,500,000 children, the Prevention and Control of Human Trafficking Ordinance and the Khyber Pakhtunkhwa Child Protection and Welfare Act do not comply with international standards because they do not provide that children can be trafficked without coercion. These laws are also insufficient because they do not specifically prohibit internal human trafficking. Furthermore, the Federal Penal Code prohibits procuring girls under age 18 for prostitution; however, the law does not sufficiently prohibit commercial
sexual exploitation because it does not extend to boys under age 18, and it does not prohibit using children for prostitution.

2.2.3) NORTH OF AMERICA

In the USA, child labour laws are enforced solely by the Department of Labour, and the most extensive federal law that restricts the employment and abuse of child workers is the Fair Labour Standards Act of 1938 (abbreviated as FLSA, and also referred to as the Wages and Hours Bill). The FLSA applies to "employees who are engaged in interstate commerce or in the production of goods for commerce, or who are employed by an enterprise engaged in commerce or in the production of goods for commerce", and introduced the forty-hour work week, established a national minimum wage, guaranteed "time-and-a-half" for overtime in certain jobs, and prohibited most employment of minors in "oppressive child labour", a term that is defined in the statute.

Child labour provisions under FLSA are designed to protect the educational opportunities of youth and prohibit their employment in jobs that are detrimental to their health and safety. FLSA restricts the hours that youth under 16 years of age can work (in order not to interfere with education children’s education), lists hazardous occupations too dangerous for young workers to perform and establishes a youth minimum wage (4.25$ per hour). More in details, the FLSA defines the different kinds of jobs that can be performed according to the child’s age, namely:

- under 14 years of age: deliver newspapers to customers; babysit on a casual basis; work as an actor or performer in movies, TV, radio, or theatre; work for a business owned entirely by your parents as long as it is not in mining, manufacturing, or any of the 17 hazardous occupations;

- 14 or 15 years of age: among the various jobs permitted we can find intellectual or creative work such as computer programming, teaching, tutoring, singing, acting, or playing an instrument; delivery work by foot, bicycle and public transportation; loading or unloading objects for use at a worksite;
• 16 or 17 years of age: any job that has not been declared hazardous by the Secretary of Labour;

In particular, the list of hazardous activities includes, among the others, coal mining, manufacturing or storing of explosives, forest fire fighting and forest fire prevention, exposure to radioactive substances and ionizing radiation. Concerning the agricultural sector, FLSA provides specific rules: for instance, youths under 12 or between 12 and 13 years of age may work outside of school hours in non-hazardous jobs on farms that also employ their parent(s) or with written parental consent, while local youths 10 and 11 may hand harvest short-season crops outside school hours for no more than 8 weeks between June 1 and October 15 if their employers have obtained special waivers from the Secretary of Labour.

2.2.4) LATIN AMERICA AND THE CARIBBEAN

This region continued to strengthen national policy frameworks to address child labour, including its worst forms, for instance by developing social programs addressing child labour that combine anti-poverty and educational measures. In addition, 12 countries in the region were among the 22 worldwide that have ratified ILO C. 189. Two countries in particular made meaningful efforts in relevant areas, but failed to remedy a regressive or significantly detrimental policy or practice established in previous years that hampered advancement in eliminating the worst forms of child labour: Bolivia, in which the Child and Adolescent Code allows children as young as 10 years old to work in self-employment; and the Dominican Republic, where some children, particularly those of Haitian descent, were prohibited by school officials from attending or school if they could not present birth certificates (despite the presence of policies prohibiting the exclusion of children from the educational system based on a lack of identity documents).

Latin American and Caribbean governments continued to develop comprehensive legal protections to prevent and eliminate child labour, including through sector-specific efforts. Bolivia, Chile, and Peru in the Andean region, and Haiti, Jamaica, Saint Vincent and the Grenadines in the Caribbean have strengthened their policy frameworks regarding human trafficking. In 2015, Chile, the Dominican Republic, and Panama ratified ILO C. 189 on Decent
Work for Domestic Workers, which commits these governments to ensure that domestic workers have the same protections as other workers, and to take steps to prevent child labour. Moreover, in 2015 Panama conducted 429 more child labour inspections than the previous year, and its Committee for the Eradication of Child Labour and the Protection of Adolescent Workers also updated the Roadmap towards the Elimination of Child Labour to outline interagency action plans and budgets for 2015 and 2016-2019. Paraguay, which ratified the ILO C.189 previously, raised the minimum age for domestic work from 16 to 18. Despite these efforts, many countries neither have laws adequately prohibiting hazardous work and sexual exploitation of children, nor allocate sufficient resources to the enforcement of already existing laws. Belize, for example, sets the minimum age for work at 12, and Bolivia allows children as young as age 10 to be, under certain circumstances, self-employed. Six countries—Belize, Dominica, Grenada, Jamaica, Saint Lucia, and Saint Vincent and the Grenadines—lack adequate prohibitions on the use of children in illicit activities. More in details, in Belize, the Article 7 of the Families and Children Act prohibits children under age 18 from being employed or engaged in any activity that may be detrimental to their health, education, or mental, physical, or moral development, but the law does not specify which activities are included in this; anyway, this article is subject to the Labour Act, which explicitly permits children older than 14 years of age to work in industrial contexts (mining, manufacturing, and construction). In Guyana, although Article 351 of the Criminal Law Offences Act prohibits the selling, publishing, and exhibiting of obscene material, the law does not sufficiently ban the commercial sexual exploitation of children, since legislation related to prostitution, pornography, and pornographic performances does not condemn the use, procuring, and offering of a child for each of these purposes. Regarding Jamaica, although Section 40 of the Child Care and Protection Act prohibits the use of children in selling tobacco and alcohol, the use of children in drug production and trafficking is not addressed. Haitian Labour Code prohibits children ages 15 to 18 from working during the night in industrial jobs and in establishments where alcohol is served; however, the types of hazardous work prohibited for children do not cover the most risky sector, that is, agriculture. Moreover, despite the Acton the Prohibition and Elimination of All Forms of Abuse, Violence, Ill Treatment, or Inhumane Treatment Against Children of 2003 contains
general prohibitions against the worst forms of child labour, it does not set any penalties for involving children in these activities. Research also found that nine countries lack prohibitions on hazardous work consistent ILO C.182: Argentina, Belize, Dominica, Grenada, Guyana, Panama, Peru, Saint Vincent and the Grenadines, and Uruguay. Some countries in the region also lack the capacity to adequately enforce child labour laws. Although 12 countries covered increased their number of labour inspectors in 2015, 18 countries did not meet the ILO’s recommendation for an adequate number of inspectors.

2.2.5) MIDDLE EAST AND NORTH AFRICA

Although the efforts made by countries in the Middle East and North Africa to strengthen legal frameworks concerning child labour have been substantial, these legal protections lack of an efficient enforcement. In addition, access to education is limited and several countries have not developed significant programs to combat child labour yet. Numerous positive initiatives were put in place in 2015 in this region. For instance, Algeria approved legislation banning the use of children in begging and started drafting a list to identify hazardous work that should be prohibited for children. In Iraq the Government adopted a new Labour Law, which establishes a new complaint mechanism at the Ministry of Labour and Social Affairs to examine child labour complaints, and provided financial support for those low-income families willing to keep their children at school. The Ministry of Employment and Social Affairs of Morocco drafted a domestic worker law strictly limiting the use of children between the ages of 16 and 18 for domestic work and forbidding employment of people under the age of 16. Countries in the region also made meaningful steps ahead to improve the enforcement of child labour laws. The Government of Egypt established a counter-human trafficking unit to help the victims, and announced plans to enforce minimum age protections in the agricultural sector. Moreover, the Kurdistan Regional Government in Iraq launched a committee to investigate cases of human trafficking and commercial sexual exploitation of children. Lebanon’s Ministry of Education and Higher Education participated in an initiative to provide free education up to grade nine for 200,000 Lebanese and refugee children. Finally, the Government of Oman, in addition to drafting regulations specifying under which conditions children may be engaged in light work, established a mechanism to
receive child labour complaints and refer them for investigation, and Jordan and Tunisia increased the number of inspection compared to 2014. Despite these efforts, many challenges and obstacles to the elimination of child labour still persist within the region. For example, routine inspections were carried out in only five countries—Iraq, Jordan, Morocco, Tunisia, and West Bank and the Gaza Strip—and just four Countries had a reciprocal referral mechanism between labour authorities and social services—Algeria, Egypt, Jordan, and West Bank and the Gaza Strip. Iraq, in 2015, adopted a new Labour Law that eliminates the prohibition on using children in illicit activities and abolishes the ban on compulsory recruitment of children for armed conflict. A similar situation is found in Yemen, where the legal framework does not adequately prohibits the use, procurement, offering or benefiting from a children in pornography and pornographic performances, and does not appear to explicitly prohibit forced labour. In 2015, armed groups, including the Houthis in Yemen, Da’esh (also known as the Islamic State of Iraq and the Levant [ISIL]) in Iraq, al-Nusra and Hezbollah in Lebanon, and Ansar al-Sharia in Tunisia, recruited children to serve as, suicide bombers, bomb makers, and executioners or to play support roles, such as carrying ammunition to the front line. The long conflict in Syria has resulted in many refugees seeking protection in neighbouring countries, and in Egypt, Iraq, Jordan, and Lebanon, despite government efforts, Syrian refugee children do not have sufficient access to education.

2.2.6) SUB-SAHARAN AFRICA

Countries in the region undertook several positive initiatives regarding child labour prevention, for example by strengthening anti-child trafficking legislation, improving policy frameworks and coordination of government efforts, and implementing new social programs with the goal of eliminating the presence of child labourers. Nevertheless, much more needs to be done in Sub-Saharan Africa. In particular, it is essential to align the prohibitions on hazardous occupations and activities for children with international standards, increase the capacity to enforce child labour laws and develop effective social protection programs to address the plague of the persistent recruitment and use of children in armed conflict. For example, both Sierra Leone and Somalia made several steps forward to eliminate the worst
forms of child labour. In 2013, Sierra Leone’s Government prepared a National Action Plan on Human Trafficking that included a goal for strengthening provisions of its Anti-Trafficking Law, such as those prohibiting domestic human trafficking. Nevertheless, it did not permit pregnant girls to attend school or take national exams. In Somalia, the Government ratified the UN CRC and took steps to implement the National Action Plan on Sexual Violence in Conflict. However, although the Penal Code criminally prohibits distributing and possessing pornography, the law does not appear to criminally prohibit using, procuring, offering, or financially benefitting from a transaction involving the sexual exploitation of a child for prostitution, pornography, and pornographic performances.

Also Eritrea, South Sudan and Swaziland made meaningful efforts in relevant areas, but resulted complicit in the use of forced child labour in more than an episode in 2015. In May 2015, the Government of Eritrea announced that it was considering the establishment of a new Criminal Code containing prohibitions on the commercial sexual exploitation of children, but it has not yet been proclaimed. However, laws regarding the commercial sexual exploitation of children are insufficient as the procurement and offering of a child for prostitution, the production of pornography are not criminally prohibited, and also the offering and procuring a child for the production and trafficking of drugs are not criminally prohibited. In addition, although the law prohibits the recruitment of children under age 18 into the armed forces, there may be children enrolled in the Government’s compulsory military training program. South Sudan removed soldiers from the grounds of 26 schools, but unfortunately, many aspects of its legal framework for the worst forms of child labour are similar to those present in Eritrea: laws related to forced labour, illicit activities and child commercial sexual exploitation are not sufficient, since debt bondage and the use of children for pornographic purposes or for the production of drugs are not criminally prohibited.

In addition, Lesotho, South Africa, and Tanzania approved implementing regulations for anti-human trafficking legislation.

In Angola and the Republic of the Congo, policy officers conducted mapping projects to better understand the nature of human trafficking in their respective countries, while the Governments of Mali, Seychelles, and Sierra Leone established national referral mechanisms to ensure that victims of child labour, including child trafficking, receive adequate assistance.

In 2015, the Governments of Botswana, Central African Republic, Chad, Lesotho, Madagascar, Mozambique, and Zimbabwe established national committees to coordinate efforts to eliminate child labour, including its worst forms. Eight countries—Angola, Burkina Faso, Central African Republic, Comoros, Côte d’Ivoire, Ghana, Madagascar, and Togo—made meaningful steps forward regarding prevention of child labour. More in details, Angola increased in the number of labour inspections conducted and launched a national program to raise awareness of child labour. The Government of Burkina Faso adopted a revised mining code that includes new provisions prohibiting child labour in mines, and renewed its annual National Action Plan to Combat Trafficking and the National Program for the Fight against Child Labour on Artisanal Gold Mining Sites and Quarries. Moreover, in an effort to improve data collection methods related to child labour, the Ministry of Social Action and National Solidarity established a basic integrated data system on child protection that is linked to all 45 Committees for Vigilance and Surveillance throughout the country. In May 2015, in the Central African Republic, 10 armed groups signed a formal agreement with the Transitional Government to end the recruitment of children in armed combat and facilitate the separation of children from their ranks. Additionally, the Government established an Interministerial Committee to Combat Human Trafficking and approved an Education Program to rehabilitate and equip more than 300 schools. Madagascar’s Government adopted the National Action Plan to Combat Trafficking in Persons, aimed at offering protection and social assistance to victims of human trafficking, including children. It also adopted both the National Social Protection Policy and a Decent Work Country Program, which the objective of strengthening national policies and programs to protect children from violence and exploitation. In addition, Kenya, Malawi, Senegal, South Africa, Uganda, and Zambia expanded cash transfer programs to ensure that vulnerable children are able to
attend school. Despite these positive results, Central African Republic, Comoros, Gambia, Guinea, Liberia, Mauritania, São Tomé and Príncipe, Somalia, South Sudan, and Zambia, have not ratified the UN CRC Optional Protocol on the Involvement of Children in Armed Conflict. Eight countries—Cameroon, Ghana, Kenya, Liberia, São Tomé and Príncipe, Somalia, South Sudan, and Zambia—have not ratified the UN CRC Optional Protocol on the Sale of Children, Child Prostitution and Child Pornography, and countries such as Comoros, the Republic of the Congo, Somalia, South Sudan, and Uganda have not ratified the Palermo Protocol on Trafficking in Persons. Most countries in Sub-Saharan Africa do not have national social protection programs; however, these programs can help provide vulnerable children with access to education through the provision of uniforms, school supplies, and unofficial school fees. Without social safety nets, vulnerable families may continue to rely on child labour to handle the effects of poverty and economic shocks.
3. PRODUCTS MADE BY CHILD LABOUR

According to the U.S. Department of Labour, there are more than 100 goods produced by child labourers, including basic products we use every day, such as coffee, cocoa, shoes....In the following figure, I have built a graph showing the most widespread goods at global level produced through child labour (for example, in 19 Countries sugarcane is produced by a considerable number of children).

Graph 1: Goods with most child labour and forced labour listings by number of Countries

It is not surprising to note from Graph 1 that the majority of goods is related to the agricultural sector (as already mentioned, around 60% of child labour population is engaged in agriculture), while gold mining is the most widespread activity involving children (it is estimated that there are 600,000 young girls and boys in the gold mining industry). Below I analyse more in details the conditions under which some of the goods indicated in the graph are produced.
3.1) **SUGARCANE**

According to the US Department of Labour, countries in which children are involved in the production process are surely Belize, Bolivia, Brazil, Burma, Cambodia, Colombia, Dominican Republic, El Salvador, Guatemala, India, Kenya, Mexico, Pakistan, Panama, Paraguay, Philippines, Thailand, Uganda, Vietnam. Unfortunately, the number of children working in sugarcane agriculture specifically is unknown, since data provided by the ILO and other research institutions is not disaggregated by crop, but probably such number is best measured in the hundreds of thousands.

In the graph below, we can find the top 10 sugarcane producing countries, with Brazil, India and China as principal producers at global level. Depending on the area and country, sugar cane can be grown on small-scale plantations, as is common in the Philippines, or on large-scale industrial plantations, as is common in Brazil.

**Graph 2: Sugar production and consumption 2014-2015**

Concerning the import-export business related to sugarcane, as we can see in Figure 4 Brazil is also the major exporter, selling more 68% of its domestically produced sugar. The EU is a major producer of beet sugar, with around 50% of the total. However, only 20% of the world’s sugar production is represented by beet sugar, and the remaining 80% (of which just 4.5% is sustainably certified) is obtained from sugar cane. Most of the sugarcane imported
into the EU is from lower and lower-middle income countries for which income from EU trade is an fundamental source of revenue. An unknown but likely substantial share of this sugarcane arrives to the EU market anonymously as refined (white) sugar. Meanwhile industry sources report that buyers are generally not interested in knowing the source of the purchased sugar.

Table 6: Sugar imports and exports by globally leading countries in 2015

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Export value in billion US$</th>
<th>% of total global exports</th>
<th>Importing Country</th>
<th>Import value in billion US$</th>
<th>% of global total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>7.6</td>
<td>35.3</td>
<td>United States</td>
<td>1.83</td>
<td>8.1</td>
</tr>
<tr>
<td>Thailand</td>
<td>2.6</td>
<td>12.2</td>
<td>China</td>
<td>1.77</td>
<td>7.8</td>
</tr>
<tr>
<td>India</td>
<td>1.2</td>
<td>5.5</td>
<td>Bangladesh</td>
<td>0.7909</td>
<td>3.5</td>
</tr>
<tr>
<td>France</td>
<td>1.1</td>
<td>5.1</td>
<td>Malaysia</td>
<td>0.7113</td>
<td>3.1</td>
</tr>
<tr>
<td>Guatemala</td>
<td>0.852</td>
<td>3.9</td>
<td>South Korea</td>
<td>0.6924</td>
<td>3.1</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.8066</td>
<td>3.7</td>
<td>Italy</td>
<td>0.6915</td>
<td>3.1</td>
</tr>
<tr>
<td>Germany</td>
<td>0.4689</td>
<td>2.2</td>
<td>Indonesia</td>
<td>0.6827</td>
<td>3.0</td>
</tr>
<tr>
<td>Cuba</td>
<td>0.4195</td>
<td>1.9</td>
<td>UK</td>
<td>0.6077</td>
<td>2.7</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.3516</td>
<td>1.6</td>
<td>Algeria</td>
<td>0.5555</td>
<td>2.7</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.3473</td>
<td>1.6</td>
<td>UAE</td>
<td>0.5181</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Source: World’s Top Exports

Other than being linked to a range of harmful environmental and social impacts - including loss of biodiversity, pollution of land and water and episodes of land grabbing - the sugarcane industry is characterized by often unacceptable working conditions: forced labour, lack of job security, low wages, health and safety problems and, unavoidably, child labour. Children in families of agricultural workers usually take part in the planting, cultivation, harvesting and processing of sugar cane. Such work can expose children to significant hazards that could lead to long-term damage to health. Tools and equipment built to adult specifications may present special risks to smaller, younger and less inexperienced workers. The consequences of the involvement of children in sugar cane production are often irreparable: they are robbed of the chance to be adequately educated to pursue other options in life, perpetuating poverty from one uneducated generation to the next; moreover, the severe dependency of families of poor sugar cane workers on landowners may put children, especially adolescent girls, at risk of being sexually exploitation.
Despite the persisting problem of child labour, several steps ahead have been made. Through the Programa de Erradicação do Trabalho Infantil (PETI), children are helped to access to education through two public policy interventions: the “Jornada Ampliada”, an after-school programme to complement regular school hours, and the provision of a subsidy called “bolsa” to poor households whose children attended the after-school programme at least 80% of the time. This was supported in 1995 by the creation of “The Programa Empresa Amiga da Criança” (PEAC), which translates as the Child Friendly Company Programme. Further, in 1996, the Brazilian sugarcane industry signed the Pacto dos Bandeirantes for the eradication of child labour in the sector. By 2007, it had awarded seventy-six companies in the sugarcane industry with the Child Friendly Company label.

In the Philippines, where according to 2011 NSO Survey on Children 62% of child labourers under hazardous work are in the agriculture sector (including sugarcane farms), a great help has been provided by World Vision’s “Pag-Aaral ng Bata para saKinabukasan” (ABK). Dubbed “ABK3-LEAP: Livelihoods, Education, Advocacy and Protection to reduce child labour in sugarcane areas”, the project aims to assist 52,000 children and their families over a period of 4 years with education opportunities for children, sustainable livelihood for the parents and youth employment services among others. Recently, the programme has launched its third project, funded by the $15M USDOL grant specifically focusing on the sugarcane areas. One of the major obstacles to sustainability improvements in the sugarcane production process lies in the structure of the supply chain, since sugar-using companies do not generally specify from which countries or suppliers they source their sugar. In October 2015, a survey designed by Stichting Onderzoek Multinationale Ondernemingen (SOMO), a Centre for Research on Multinational Corporations, the was sent to the five supermarkets (Albert Heijn, Aldi, Jumbo, Lidl and Plus) with the largest market share in the Netherlands to assess their purchasing policies for sugarcane in store brands. Plus indicated that they always ask whether sugar cane or beet sugar is used and what the country of origin is, in addition to requiring their store brand producers to source only sustainability certified sugar cane (Bonsucro or equivalent). However, their answer also reveals that not all their store brand suppliers are in compliance with this policy yet. In contrast, Albert Heijn, Aldi and Jumbo do not have a specific policy for sugar cane, entailing that suppliers in so called risk countries
(low and middle income countries according to World Bank) need to be audited for compliance with the Business Social Compliance Initiative (BSCI) standard. Lidl did not answer the survey, but since it is a BSCI member, its policies are likely to be similar to those of Albert Heijn, Aldi and Jumbo. The study concluded the all leading Dutch supermarkets have policies in place to address the risk of being associated with unsustainable practices in their supply chains, but, with the exception of Plus, such policies are not specific to sugar cane and are not very ambitious.

As previously mentioned, sugar-using companies do not generally specify the origin of the sugar they use. In fact, it appears that only one large sugar-using company, Coca Cola, has so far committed to follow plan of action to prevent and address land human rights in its supply chain. In “The Coca-Cola Company Commitment Land Rights and Sugar” plan, the company declares that it will conduct third-party social, environmental and human rights assessments beginning in Brazil, Colombia, Guatemala, India, Philippines, Thailand and South Africa, and that it will disclose all sourcing countries for sugarcane and publish the names of all of its direct sugarcane suppliers.

3.2) COTTON

Forced and child labour is unfortunately common in the cotton industry, where even five years old children risk to be recruited and sometimes forced to work in cotton fields or factories processing raw cotton for little or no pay (in Gujarat, India, a child working on a cotton seed farm receives less than $1 per day), usually at the expense of their education.

Much of children’s work is included in general agricultural statistics, which makes it difficult to establish a comprehensive overview of the extent of child labour in cotton production. Moreover, despite many studies have been conducted by international organisations on child labour in other industries, cotton work has received less attention. It is therefore not possible to provide precise information about the number of child labourers involved in cotton production. According to the aforementioned “List of Goods Produced by Child Labour or Forced Labour”, Countries involving children in the cotton industry are Argentina, Azerbaijan, Benin, Brazil, Burkina Faso, China, Egypt, India, Kazakhstan, Kyrgyz Republic, Mali, Pakistan, Paraguay, Tajikistan, Turkey, Turkmenistan, Uzbekistan, Zambia. Among
them, we can observe the presence of seven of the ten major cotton producers at global
level, as indicated in the following graph (note that, as described in Table 7, China and India
are also the two principal cotton exporters).

**Graph 3: Cotton production by country worldwide in 2014/2015 (in 1,000 metric tons)**

![Graph 3: Cotton production by country worldwide in 2014/2015 (in 1,000 metric tons)](image)

*Source: Statista*

**Table 7: Cotton imports and exports by globally leading countries in 2015**

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Export value in billion US$</th>
<th>% of total global exports</th>
<th>Importing Country</th>
<th>Import value in billion US$</th>
<th>% of global total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>15.8</td>
<td>29.1</td>
<td>China</td>
<td>10.3</td>
<td>20.2</td>
</tr>
<tr>
<td>India</td>
<td>7.5</td>
<td>13.8</td>
<td>Bangladesh</td>
<td>4.5</td>
<td>8.8</td>
</tr>
<tr>
<td>United States</td>
<td>5.9</td>
<td>10.8</td>
<td>Vietnam</td>
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</tr>
<tr>
<td>Pakistan</td>
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<td>5.7</td>
<td>Turkey</td>
<td>2.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Hong Kong</td>
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<td>4.3</td>
<td>Hong Kong</td>
<td>2.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Vietnam</td>
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<td>Indonesia</td>
<td>1.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Turkey</td>
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<td>3.1</td>
<td>South Korea</td>
<td>1.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Italy</td>
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<td>2.7</td>
<td>Italy</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Brazil</td>
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<td>2.7</td>
<td>Pakistan</td>
<td>1.3</td>
<td>2.5</td>
</tr>
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<td>Germany</td>
<td>0.9989</td>
<td>1.8</td>
<td>United States</td>
<td>1.1</td>
<td>2.2</td>
</tr>
</tbody>
</table>

*Source: World’s Top Exports*

Child labour in the cotton industry occurs in a variety of different forms and at different
stages of cotton production. For example, the practice of bonded labour, according to which
children are obliged to work to repay a debt incurred by a parent, is very common in the Indian cotton industry: parents from the poorest villages, driven by necessity, receive advances or loans from seed producers in exchange for their child’s labour for the duration of the cotton growing season; this debt is then used as a method of binding child workers and removing their freedom, and in some cases the debt is passed down through generations, inherited from grandparents and forcing entire families into servitude and poverty. Sometimes, children are forced to work in the cotton fields by their own government authorities, as it occurs in Uzbekistan, Tajikistan, Kyrgyz Republic and China. Girls in India, Pakistan and China have been reported to suffer sexual harassment and even rape.

The most serious situation seems to be present in India and Uzbekistan. Cotton production in the Central Asian Republic of Uzbekistan represents one of the enterprises with the highest level of human exploitation globally, and is an issue directly controlled by the Government. The national plan for cotton production is designed by the Prime Minister, which establishes the production quota for each region, and successively distributed to the Regional Governors (hokims). The state-imposed daily quotas, usually ranging between 30 and 50 kg, are rigorously enforced and result in children often working up to 10 hours a day for 100 ZU So’m (0.07 USD) per kilo, and those – whether they are adults or children – who fail or pick poor quality cotton experience verbal or physical abuse or detention. Uzbekistan is also the only country in the world in which the heads of educational institutions receive verbal instructions from the local administrative body (Khokimiyat) to shut down schools, universities and colleges and send students to the fields, depending on the age of the child as well as the time of the harvest season. The root of the problem is the ineffectiveness of the agricultural control system: indeed, since its independence from the Soviet Union in 1991, the Uzbek government has failed to reform the country’s agricultural sector through continued underinvestment and the reluctance to provide mechanized harvesters or pay adults a decent living wage for their labour, creating a situation that resulted in children being systematically employed in cotton harvest. The problem of forced child labour in Uzbekistan became known to the public only in 2007, leading many big retail names and textile brands such as Tesco, Wal-Mart, Target, Levi Strauss, Gap, Limited Brands as well as
Marks & Spencer to sign on a public agreement, known as the Cotton Pledge, committing to not voluntarily source Uzbek cotton for the manufacturing of any of our products until the Government of Uzbekistan ends the practice of forced child and adult labour. Due this pressure at international level, in 2012 the Uzbek government began to shift the demographics of its forced labour policies: for instance, beginning with the 2012 harvest the government of Uzbekistan adopted a policy not to mobilize children younger than 16 on a mass scale. In 2013, the government extended this to first-year college students who are usually 16 years old, but continued the mass mobilization of second- and third-year students. In 2014 only third-year students were mobilized on a mass scale, including, in many cases, 17 year olds. However, thousands of children were still sent to the fields in at least three regions in 2014.

Regarding India, the “Cotton’s Forgotten Children” report – published by the Stop Child Labour Coalition and the India Committee of the Netherlands (ICN) – states that the research data for 2014-15 shows that children under 14 years still account for nearly 25% of the total workforce in cottonseed farms in India. In 2014-15, a total of around 200,000 children below 14 years were employed in cottonseed farms in Andhra Pradesh, Telangana, Gujarat, Tamil Nadu, Karnataka and Rajasthan states. Gujarat, which has the largest cottonseed production area in the country accounts for nearly 55% of the total children employed in this sector (110,000). As a result of the efforts of local and international NGOs, the government, media and social investors, awareness has been created. Interventions by various agencies, including governmental agencies, the seed industry and international organisations like ILO, UNICEF and UNDP have in combination had a positive impact and helped to reduce child labour in the cottonseed industry, but the persistence child labour on a large scale shows that the enforcement of these interventions is still insufficient. The response from the seed industry as a whole to address the problem of child labour is minimal. Despite acknowledging the problem and promising steps to address the problem of child labour, seed companies, except for a few multinationals and local companies, to date have not taken any serious efforts to tackle the issue on the farms that are producing seed for their companies. The initiatives undertaken by Bayer, Monsanto, Du Pont and few local companies have had some positive impact in reducing the number of working children.
However, their efforts have only a limited impact on the overall magnitude of child labour in the industry.

3.3) COFFEE

Countries that have been found using children in the coffee sector during the year 2015 are: Colombia, Costa Rica, Côte D’Ivoire, Dominican Republic, El Salvador, Guatemala, Guinea, Honduras, Kenya, Mexico, Nicaragua, Panama, Sierra Leone, Tanzania, Uganda and Vietnam.

Graph 4: World’s largest coffee producing Countries in 2015 (in 1,000 60 kilogram bags)

Source: Statista

Table 8: World’s top ten coffee exporting/importing Countries in 2014

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Export value in billion US$</th>
<th>% of total global exports</th>
<th>Importing Country</th>
<th>Import value in billion US$</th>
<th>% of global total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>6.14</td>
<td>20</td>
<td>United States</td>
<td>5.67</td>
<td>18</td>
</tr>
<tr>
<td>Vietnam</td>
<td>3.15</td>
<td>10</td>
<td>Germany</td>
<td>4.08</td>
<td>13</td>
</tr>
<tr>
<td>Colombia</td>
<td>2.66</td>
<td>8.7</td>
<td>France</td>
<td>1.96</td>
<td>6.4</td>
</tr>
<tr>
<td>Germany</td>
<td>2</td>
<td>6.5</td>
<td>Italy</td>
<td>1.71</td>
<td>5.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1.73</td>
<td>5.6</td>
<td>Belgium-Lux.</td>
<td>1.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Italy</td>
<td>1.45</td>
<td>4.7</td>
<td>Japan</td>
<td>1.46</td>
<td>4.7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.11</td>
<td>3.6</td>
<td>Canada</td>
<td>1.26</td>
<td>4.1</td>
</tr>
<tr>
<td>Honduras</td>
<td>0.910</td>
<td>3</td>
<td>Netherlands</td>
<td>1.23</td>
<td>4</td>
</tr>
</tbody>
</table>
Child labour is widespread in coffee cultivation. When the price of coffee rises, the incentive for struggling families to withdraw children from school and send them to work increases; at the same time, a fall in coffee price worsens poverty in regions depending on the crop, which can also prevent children from attending school. Despite the fact that precise data regarding the number of children involved in the coffee supply chain are very difficult to obtain for countries such as Brazil, the major coffee producer is known for its problems related to child labour and slave labour, namely debt bondage, non-existent work contracts, exposure to dangerous substances, lack of adequate equipment and decent accommodation. A study conducted in Brazil in 2007 found that child labour rates were approximately 37% higher – and school enrolment 3% lower – than average in regions where coffee is produced.

There are also reports that children ages 5 to 17 in Vietnam cultivate coffee. Vietnamese coffee industry has a particular history: introduced by French colonialist during the 19th Century, after the war that lasted from 1955 to 1975 Vietnam became the second coffee producer and exporter in the world after Brazil, and the number one for robusta – one of the two main coffee species, often used in instant coffee. Coffee is now Vietnam’s key export, generating an income of more than $1.5bn. In total, the coffee sector represents 3% of national GDP, providing a livelihood for around 2.6 million people – 600,000 of them farmers and many from minority ethnic groups. However, the results of the Government of Vietnam’s National Child Labour Survey 2012, published in 2014, show that an estimated 34,131 child labourers work in coffee plantations. Approximately 36.7% of these child labourers are under 15 years old, which is the minimum age for employment in Vietnam. Of the estimated 34,131 child labourers who grow coffee, 9.2% are 5-11 years old, 27.5% are 12-14 years old, and 63.3% are 15-17 years old.

In Guatemala, known for growing some of the world’s best coffee for quality-conscious consumers, an investigation conducted by the Danish independent journalist source
Danwatch points out episodes of illegal child labour, forced labour, and threats or violence for those union representative who try to defend the rights of coffee workers. It is not known exactly how many children work on Guatemala’s coffee plantations. In 2014, 10.7% of all Guatemalan children between the ages of 7 and 14 worked, even though the law prohibits the engagement of children younger than 14 years of age; of these, 46.5% worked in agriculture, according to numbers from INE (Instituto Nacional de Estadística), Guatemala’s national institute of statistics. According to Mario Minera, National Director of Mediation and Conflict Resolution for the human rights ombudsman, child labour on coffee plantations is a consequence of the way in which the workers are paid. Indeed, the compensation is given on a piecework basis, leading workers to involve their children in order to earn more money. Unfortunately, one of the most common problems in the coffee sector is that workers are not paid the minimum wage. According to the report realised by Danwatch, indeed, a woman with the help of her three children can harvest enough coffee to earn about GTQ (Guatemalan Quetzal) 30-40 per day (about $4-5). This is significantly under Guatemala’s minimum wage for a single worker, which in 2015 was GTQ 78.72 ($10.30) per day. The problems of child labour, indicators of forced labour, minimum wage violations, and lack of contracts on coffee plantations in the Country seem to be hard to eradicate, partially because of the fact that government inspectors – when not undermined by corruption – very seldom visit coffee plantations to investigate working conditions, fearing they could be threatened or killed by the armed men employed by plantation owners. Indeed, according to the International Trade Union Confederation (ITUC), Guatemala – where at least 53 union representatives have been murdered between 2007 and 2013 – is one of the ten worst Countries in which to be a labourer. During its investigation, the Danish journal also conducted an interview with Anacafé, the coffee plantation owners’ trade organisation in Guatemala, which stated that it is unaware of the presence of forced labour in the coffee sector, but that it educates coffee plantation owners on the rights of workers and has been working to combat child labour. Moreover, it affirms that profits are distributed unequally in the coffee supply chain, since less than one percent of consumers’ purchase price goes to the producer.
3.4) **COCOA**

The United States Department of Labour has identified Cameroon, Côte d’Ivoire, Ghana, Guinea, Nigeria, Sierra Leone as those countries in which children are forced into working in cocoa plantations.

As we can notice in the following figures, Western African Countries, mostly Ghana and Ivory Coast, supply more than 70% of the world’s cocoa, selling their product to a majority of chocolate companies, including international giants such as Hershey’s, Mars, and Nestlé. According to the World Bank, Ghana and Ivory Coast have a combined GDP of around $73 billion – significantly less than Nestlé’s $100 billion in sales in 2015. The previous year, Ivory Coast alone exported 37% of the total global cocoa export, and demand is going up mostly because chocolate is becoming more and more popular in Countries like India and China.

**Graph 5: Top ten cocoa producing Countries in 2013 (tonnes)**

![Graph showing top ten cocoa producing countries in 2013](image)

*Source: Atlas-Media*

**Table 9: Top cocoa beans exporting/importing countries in 2014**

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Export value in billion US$</th>
<th>% of total global exports</th>
<th>Importing Country</th>
<th>Import value in billion US$</th>
<th>% of global total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cote d’Ivoire</td>
<td>3.58</td>
<td>37</td>
<td>Netherlands</td>
<td>1.94</td>
<td>20</td>
</tr>
<tr>
<td>Ghana</td>
<td>2.27</td>
<td>24</td>
<td>United States</td>
<td>1.26</td>
<td>13</td>
</tr>
<tr>
<td>Nigeria</td>
<td>0.633</td>
<td>6.6</td>
<td>Malaysia</td>
<td>0.910</td>
<td>9.5</td>
</tr>
</tbody>
</table>
The price of cocoa surged 13% in 2015, even though prices for most raw materials were dropping. However, average farmers in most of the major cocoa producing countries still earn less than 2$ per day, and this context of intense poverty forces them to find ways to reduce production costs as much as possible, for instance by involving children.

In 2001, the cocoa and chocolate industry agreed to abolish exploitative child labour by 2005 by signing the voluntary Harkin-Engel Protocol. The deadline has been extended several times, and the current objective of the protocol is to reduce the worst forms of child labour by 70% by 2020. More precisely, the Harkin–Engel Protocol is a voluntary public-private agreement aimed at eliminating the worst forms of child labour (defined according to the ILO Convention No. 182) in the growth and processing of cocoa in Côte d’Ivoire and Ghana. It partnered governments, the global cocoa industry, cocoa producers, cocoa labourers, non-governmental organizations, and laid out a series of date-specific actions, including the development of voluntary standards of public certification. It is important to underline that the Protocol did not commit the industry to ending all child labour in cocoa production, but only the worst forms of it. There has been a lot of activity on the corporate side in the years since the Harkin-Engel Protocol was signed: the majority of name-brand chocolate makers have created or expanded their own sustainability program aimed at tackling the child labour issue by improving the lot of farmers.

For example, Mondelez International, one of the world’s largest snacks companies, will invest $400 million by 2022 in its Cocoa Life program. Launched in 2012, the program aims to empower 200,000 cocoa farmers and reach one million community members in six key cocoa growing origins: Cote d’Ivoire, Ghana, Indonesia, India, the Dominican Republic and Brazil. Cocoa Life is built on partnerships with governments, nongovernment organizations,

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Data sourced from Inside Big Chocolate’s Child Labour Problem - Fortune
supply chain partners, cocoa farming organizations, and farming communities. It carries out activities such as education in financial services and access to finance, training farmers in good agricultural practices and facilitating the development and implementation of Community Action Plans. In Ghana, Cocoa Life farmers’ incomes in the first 100 communities to join the program increased by 300% between 2009 and 2014, 49 percent more than that experienced by farmers in control communities that were not part of the program. In Cote d’Ivoire, the program allowed farmers to extend their production from 350 kilos of cocoa per hectare to 600 kilos per hectare in two and a half years. The program also strives to eliminate child labour by addressing its root causes with actions designed to improve the livelihoods of farmers, empower women, and promote education. For instance, in Cote d’Ivoire, the structural problem hampering access to education is the lack of birth certificates for children, exposing them to exploitation in cocoa plantations. Cocoa Life thus cooperates with CARE International, one of the world’s leading international humanitarian agencies, in helping ensure school attendance by assisting families through the complex administrative process to acquire such documents.

Also Nestlé, in the last years, has been increasingly committed in addressing supply chain issues, for example by becoming the first food industry, in 2012, to partner with the Fair Labour Association (FLA), a non-profit multi-stakeholder initiative that works with major companies to improve working conditions in their supply chains. We need to keep in mind that Nestlé gets cocoa from a very large number of farm cooperatives across - for instance - Ivory Coast, encompassing tens of thousands of farmers. But Nestlé does not buy the beans directly, since farmers sell them to a government-licensed buyer that, in turn, sell them to multinational companies. From 2010, Nestlé has started its Nestlé Cocoa Program, designed to increase suppliers’ profitability, secure high-quality cocoa and address supply chain problems. The NCP, already active in Cote d’Ivoire, Ecuador and Venezuela, has committed to investing 110,000,000 CHF between 2010-2019 in order to train farmers on how to increase yields, reduce disease, respect the environment and produce a better quality crop which attracts higher prices. In 2015, 1.7 million higher yielding cocoa plants were distributed, and 44,000 farmers were trained in field schools; moreover, the annual volume of cocoa sourced by Nestlé through NCP dramatically increased by 11 tonnes from 2010 to
2015. In order to specifically address child labour causes, the NCP spent 2.1 million over three years building 40 schools in Cote d’Ivoire, facilitating access to education for 10,000 kids and young people. Among the 541 communities involved in the program, more than 35,000 members and 12,000 farmers have been educated on child labour issues, and 18 child labour agents have been recruited and trained\(^3\). From September 2015 to January 2016, FLA external assessors conducted independent assessments of 303 farms in 16 communities under six cooperatives supplying to Nestlé via the NCP.

Unfortunately, despite these laudable initiatives, the number of children engaged in hazardous activities is still worrisome. In July 2015, the Payson Centre for International Development at Tulane University released the findings of a comprehensive survey of child labour, funded by the U.S. Department of Labour, in Ivory Coast and Ghana in the 2013–14 growing season. Tulane found that 2.1 million children had been engaged in inappropriate forms of child labour in Cote d’Ivoire and Ghana combined – a 21% increase over the 1.75 million identified in a survey conducted five years earlier. Of those, 96% were found to be involved in “hazardous activity.” The number of children reported to be performing dangerous tasks fell by 6% in Ghana but jumped by 46% in Cote d’Ivoire.

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\(^3\) Data sourced from Nestlé Cocoa Plan
3.5) **GOLD**

In the Graph and Table below we can see how gold production varies among the ten top gold producing countries, with China mining around 60% more than its closest competitor, and the major gold exporting and importing countries, with Switzerland ranking first in both lists.

![Graph 6: World’s largest gold producing countries in 2015 (in metric tonnes)](image)

**Table 10: Top gold exporting/importing countries in 2014**

<table>
<thead>
<tr>
<th>Exporting Country</th>
<th>Export value in billion US$</th>
<th>% of total global exports</th>
<th>Importing Country</th>
<th>Import value in billion US$</th>
<th>% of global total imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>66.6</td>
<td>21</td>
<td>Switzerland</td>
<td>73.1</td>
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</tr>
<tr>
<td>Hong Kong</td>
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<td>15</td>
<td>China</td>
<td>63.9</td>
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</tr>
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<td>UK</td>
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<td>Hong Kong</td>
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<td>India</td>
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<td>Australia</td>
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<tr>
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<td>4.1</td>
<td>UK</td>
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</tr>
<tr>
<td>South Africa</td>
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<td>9.86</td>
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<tr>
<td>Germany</td>
<td>5.55</td>
<td>4.7</td>
<td>Thailand</td>
<td>6.07</td>
<td>1.9</td>
</tr>
</tbody>
</table>

*Source: Gold - The Observatory of Economic Complexity*
Episodes of child labour have been identified by United States Department of Labour in Bolivia, Burkina Faso, Colombia, Democratic Republic of Congo, Ecuador, Ethiopia, Ghana, Guinea, Indonesia, Mali, Mongolia, Nicaragua, Niger, Nigeria, North Korea, Peru, Philippines, Senegal, Sudan, Suriname, Tanzania and Uganda.

Gold mining is an extremely dangerous work for children. Still today, tens of thousands are found in the small-scale gold mines of Africa, Asia and South America working both above and underground. Under-ground they risk death from explosions, rock falls, and tunnel collapse, and breathe air filled with dust and toxic gases. Above-ground, children dig, crush, mill, and haul ore – often in the hot sun. Moreover, gold mining presents another grave hazard: the mixing of mercury with the crushed ore or sediments to separate out the gold. Mercury is a highly toxic metal very often mishandled by small-scale miners, and a prolonged exposure to this substance can lead to serious physical disorders and neurological problems. In particular, Ghana and The Philippines – respectively the 10th and the 20th major gold producers in the world – have become the object of numerous studies that examine the causes of the significant presence of child labour in their mines. Human Rights Watch drafted in 2015 a report documenting the use of child labour in artisanal and small-scale mines in Ghana’s Western, Central, and Ashanti Regions, mainly focusing on unlicensed sites, which constitute the vast majority of mines. About one-third (34%) of Ghana’s gold comes from artisanal and small-scale gold mining, and nearly all of it is exported: for example, in 2013, 40.7 tons of gold from the artisanal and small-scale gold mining sector were exported, at a trade value of US$1.7 billion\(^4\). Artisanal and small-scale mines operate with simple machinery, limited investment, and a large workforce; most of them operate illegally without a license, and while offering important income opportunities for Ghana’s rural populations, they also encourage hazardous child labour and cause serious environmental damage. Child labour in Ghana’s gold mines violates Ghana’s Children’s Act, which prohibits work in mining for anyone under the age of 18. Child labour in mining also violates Ghana’s international legal obligations. Of 44 child miners interviewed by Human Rights Watch, 20 had started working at the age of 12 or younger. The youngest child miner Human Rights Watch interviewed was 9 years old. A survey by the International Labour Organization (ILO)

\(^4\)Data sourced from: Minerals Commission, “Small-Scale Exporters,” 2014, on file at Human Rights Watch
of 400 child miners found that most child miners—61 percent—were adolescents between the ages of 15 and 17. One-third of miners were between the ages of 10 and 14, and nearly 6 percent of children were between 5 and 9 years old. The main export destinations for gold from artisanal and small-scale mining are Switzerland and the UAE; other export destinations are South Africa, India, China, Turkey, Lebanon, and the United States. Traders buy gold at or near Ghana’s artisanal and small-scale mines, and then sell it to other parties. Most of the gold is eventually exported to international gold trading or refining companies. Human Rights Watch found that traders were sourcing from unlicensed mines, where child labour is common. Traders, who buy at the mines below the gold world market price in order to make a profit, generally appeared to have little information on the concept of human rights due diligence; those interviewed said that they did not attempt to find out about labour conditions, the legality of the mine, or other aspects of the mining process. Ghanaian export companies were aware of the need to conduct due diligence and described varying strategies to avoid benefiting from child labour, including sourcing mainly from licensed mines. While these strategies have helped reduce the risk of benefiting from child labour, they have not been sufficient to guarantee a child-labour free supply chain. Gold refiners are at a crucial point of the gold supply chain and have a key role to play in developing and implementing due diligence policies and procedures. Human Rights Watch analysed due diligence policies procedures of the six international refiners sourcing gold from Ghana’s artisanal mines: Metalor (Switzerland), Produits Artistiques Métaux Précieux (PAMP) (Switzerland), Kaloti (UAE), Emirates Gold (UAE), Kundan (India), and Randgold Refinery (South Africa). Both the two Swiss companies have taken important due diligence measures, for example by implementing policies that explicitly express no tolerance towards illegal forms of child labour and by applying procedures such as the verification of the customer and his licenses, the identification of the ultimate beneficial owner, the determination the origin of precious metals and onsite visits. Concerning the gold traders and refiners in the UAE, both Kaloti and Emirates Gold have set policies on responsible sourcing from conflict-affected and high-risk areas, to avoid contributing to conflict, and Emirates Gold in particular specifically states that the company cannot tolerate or profit from human rights abuse. However, some weaknesses have been found, especially in Kaloti’s policy: indeed, buying
gold only from licensed suppliers in Ghana is not sufficient to avoid child labour from being part of the supply chain, since licensed traders sometimes buy gold from unlicensed mines where child labour is common. Furthermore, licensed sites may not be inspected regularly by government officials. Concerning Kundan, the Indian refinery, there is no policy on responsible sourcing or compliance policy available on its website, and it is not clear whether the company has such a policy. Randgold Refinery’s responsible gold policy is consistent with the OECD due diligence guidance, including its focus on conflict-affected and high-risk areas, and it explicitly mentions that it does not tolerate or assist any use of child labour.

In the Philippines, 200,000 to 300,000 people work in small-scale gold mining, producing an estimated 70 to 80 percent of gold in the Philippines. Large and small-scale mines produced about 18 tons of gold in 2014, at a market value of over US$700 million, according to official statistics. There are no precise figures on the production of gold from small-scale mining because around 90 percent of the gold is smuggled out of the country and not traded at the government-controlled buying stations. In March 2015, the government revised the rules and regulations for small-scale mining. In order to increase the number of legal mining operations, the government simplified the process for obtaining licenses and declaring people’s mining areas and also prohibited certain harmful mining practices, including the use of mercury and underwater mining. However, it did not mention child labor or reiterate the prohibition on child labor. Despite a legal framework including the ratification of the ILO Minimum Age Convention, the Worst Forms of Child Labor Convention and the approval of the Enhanced Basic Education Act – which mandates compulsory free education for all children in the Philippines until the age of 18 – child labour in the Philippines is common, and according to a 2009 statement by the ILO, over 18,000 girls and boys work in mining in the Philippines. The government has indeed largely failed to enforce its regulations and policies, especially those regarding small-scale mining and child labour prevention. For example, the government’s conditional cash transfer program for impoverished families specifically targets households of child labourers, and is complemented by other livelihood assistance programs. The Campaign for Child-Labour Free Barangays (“barangay” refers to the smallest administrative division in the Philippines) seeks to assist local governments in creating child-

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5 Data sourced from: “What ... If Something Went Wrong? Hazardous Child Labor in Small-Scale Gold Mining in the Philippines”, Human Rights Watch, 2015
labour free communities, and local authorities also sometimes pass ordinances prohibiting child labour to reinforce national law. Under the leadership of the Department of Labour and Employment (DOLE), various government agencies—such as the Department for Social Welfare and Development (DSWD) and the Department of Education—work on child labour issues, and coordinate in the National Child Labour Committee (NCLC). However, as previously mentioned, practical action on the ground falls short of the government’s expectations: for instance, while the number of inspectors has been increased in recent years, inspections still function poorly and are rare in the mining sector. The Child-Labour Free Barangay program only reaches a fraction of all barangays, and even those involved in the program have not been declared child-labour free; child protection and police capacity is also limited at barangay level. With regard to education, the government has made important gains: in the Enhanced Basic Education Act, compulsory free education has been extended up to age 18, and various measures have been taken to increase school enrolment and make education more adapted to children’s needs. But, while primary school net enrolment is now at 89 percent, enrolment rates are far lower in high school: the net enrolment ration in secondary education is 56 percent for boys and 67 percent for girls (2008-2012)\(^6\).

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\(^6\) Source: UNICEF, Philippines_statistics
4. LITERATURE REVIEW

Even though child labour has been present at global level for centuries, the awareness and concern for children employed in jobs unsuitable for their age, and the consequent will of analysing the relationship between child labour and economic growth, have risen only recently. In this chapter, I will review the existing theoretical and empirical literature that attempts to investigate those factors characterizing the supply of child labour.

4.1) POVERTY

The literature investigating the relationship between the enhancement of countries’ economic status and changes in child labour is generally characterized by two strands of research (Edmonds, 2003). The first strand analyses whether child labour may be a cause of poverty and may contribute to its intergenerational transmission through its effect on the accumulation of human capital. The second strand takes into consideration the role played by low family income in the decision to send a child to work.

An interesting point of view in this regard is offered by Basu and Van (1998), in their famous paper demonstrating the existence of multiple equilibria in labour market. The authors develop a model with an equilibrium where the adult wage rate is low and children work, and another in which the adult wage rate is high and children do not work. They assume that parents have generally an “altruistic” attitude towards their children and that the only reason for which they decide to send them to work is a lack of employment prospects for adults. They then build the model under two crucial assumptions: the ‘luxury’ and the ‘substitution’ axioms. The luxury axiom states that “a family will send the children to the labour market only if the family's income from non-child-labour sources drops very low”; the substitution axiom asserts that firms consider adult and child labour as substitutes. Hence, if all children were pulled out from work because of a total ban, the first effect would be a shortage of labour, thus the wages of adults would rise in response of the excess demand for labour. As adult wages increase, it is then possible that parents will not want to allow their children to work, preferring to invest in education. Grimsrud (2001) argues that the in model constructed by Basu and Van the “added worker effect” (when a low-income household
increases rather than reduces its labour supply as a result of decreased wages) plays a key role in explaining the existence of a low wage-high child labour trap. Indeed, since adult and child work are considered substitutes, an extremely poor household will send both its adult and child members to work in the labour market, thus pushing down the level of wages and causing the economy to be stuck in a low wage-high child labour trap. He also states that an “added worker effect” can arise when children have to assist or replace adults in the household family plot or business, in order to enable adult household members to enter the wage labour market. In this way, even in economies experiencing a low rate of child labour supplied to private firms, the existence of child labour in the household may lead to a low wage-high child labour equilibrium. Basu, Genicot and Stiglitz (2000), in their work that analyses how poverty and unemployment may affect children’s participation in the labour market, state that an increase in unemployment may, on the one hand, prompt households to send children to work to insure against the risk of the principal breadwinner getting unemployed, generating the so called “added worker effect”; on the other hand, nevertheless, a lack of job opportunities could also discourage people from wasting energy searching for work (the “discouragement effect”). The model developed by the two authors shows how the empirical literature may have a bias in overestimating the strength of the discouragement effect. The authors also obtained results indicating that there could exist multiple equilibria in the labour market, and that establishing a minimum wage policy may, at the same time, lower wages and generate an equilibrium displaying simultaneously excess demand and excess supply of labour. Concerning minimum wage, Basu (2000) affirms that the way in which interventions in the adult labour market are conducted is crucial to curtail child labour. Indeed, while on the one hand adopting policies that increase marginal productivity – and consequently wages and employment opportunities – for adult workers is surely positive, on the other hand the application of a minimum wage legislation to bolster adult wages may be complex. He notes that in some cases it can reduce the incidence of child labour, but in other circumstances the presence of a minimum wage can cause adult unemployment to increase. Furthermore, unemployment benefits are absent in most developing countries, so it is likely that adults who are unemployed will send their children to work, resulting in a higher supply of child labour and, as a consequence, an increase in
child employment. Thus, as aforesaid, the author’s thought is that actions aimed at introducing a minimum wage legislation must be carefully managed, since their the full impact can be huge. He also argues that there is some theoretical reason for believing that improvements in the condition of adult workers result in the decline of child labour, since parents can then afford to take their children out of the labour force. But, also in this case, much depends on how any intervention in the adult labour market is carried out.

Moreover, child labour is likely to contrast with school attendance, therefore damaging children’s performance. In this context, studies such as the one conducted by Beegle, Dehejia and Gatti (2004) argue that, although child labour cannot be considered beneficial, in the medium run (i.e., over a five to ten-year horizon) its opportunity costs (for example lower school attainment) are offset by important benefits for the children themselves and their families in terms of increased earnings and acquisition of skills that will represent a future advantage. However, the presence of children in the labour market may depress wages for adults, and therefore create poverty. Boozer and Suri (2001), by using a sample of use a cross-section of data from Ghana collected over October 1988 to August 1989 on 3374 households, investigate whether the presence of children in the labour market cause them to get less education, in terms of the short run trade-off between time spent in school versus time spent at work. The results show a strong negative effect of child labour on schooling, meaning that there exists a significant trade-off between child labour and schooling; the trade-off is more obvious for boys than for girls, though it does exist for girls in the long run as well as at the extensive margin (i.e. children moving in and out of the labour market). Furthermore, child labour may be responsible of poor health and nutritional status, because of the environment in which children work (Fassa, 2003). Through all these mechanisms, child labour may create, as previously mentioned, an intergenerational poverty trap – or, more precisely, a “child labour trap”. Basu (1999) illustrates this phenomenon in his paper “Child Labour: Cause, Consequence, and Cure, with Remarks on International Labour Standards” by developing an overlapping generations model in which each person lives for two periods, first as a child and then as an adult, and at the start of the second period gives birth to a child. His model can be summarized as follows. As a child, a person can either work or acquire human capital (denoted by $h$) by going to school. In case of a child
labourer, the amount of human capital acquired is $h = 1 - e$, where $e$ represents the fraction of the day that a child spends working. The productivity of an adult depends on the amount of human capital acquired during childhood, hence if we denote by $L$ the number of labour units produced by one adult, we can write that

$$L_t = L(h_{t-1})$$

where $L' > 0$, $L'' < 0$.

The author also assumes that amount of labour produced by an unskilled adult is defined to be 1, which means that $L(0) = 1$, and uses use $V$ to denote the wage of one unit of labour. If labour demand is perfectly elastic, this will be constant and the wage rate can be considered to be fixed at $V$. Hence, in period $t$, an adult who as a child, that is, in period $t - 1$, had worked amount, will have an income of

$$VL(1 - e_{t-1}) = W_t.$$

Another assumption regards the presence of a minimum wage denoted by $\hat{W}$ such that, if adult income $W$ is below $\hat{W}$, the parent sends the child to work full time ($e = 1$). Conversely, if adult income exceeds $\hat{W}$, the parents do not send their child to work at all, which means that $e = 0$. At this point it can be easily deducted that the amount of work that a child performs in period $t$ is a function of the parent’s wage in period $t$:

$$e_t = e(W_t),$$

such that:

- $e(W) = 1$, for all $W \leq \hat{W}$;
- $e(W) = 0$ for all $W \geq \hat{W}$.

Combining $VL(1 - e_{t-1}) = W_t$ and $e_t = e(W_t)$, we get

$$e_t = e[VL(1 - e_{t-1})]$$

which can be rewritten as

$$e_t = f(e_{t-1}).$$

From the assumptions made above we know that $F$ is upward sloping and bounded above at $e[VL(0)] = e(V)$. The author then considers a function $f$ that intersects the 45° line more than once, as shown in Graph 7. There are three steady-state equilibria, of which two (points 0 and E) are stable. At E, a poor parent makes the decision to send the child to work full-time, causing him to acquire no skills and, therefore, human capital. Once an adult, he will earn very little and have to send his child, in turn, to work full-time. This equilibrium depicts what
may Basu calls a “child labour trap”. Conversely, 0 depicts an equilibrium where a child goes to school, earns adequately as an adult and so can and does send his child to school, creating a virtuous cycle.

**Graph 7: Multiple equilibria**

![Graph](image-url)

The fact that a lack of appropriate opportunities for adults tends to favour the supply of child labour in low-income households has been proven by a substantial part of the literature. For instance, Galli (2001) analyses the impact of child labour at the micro family level, macroeconomic level and in the adult labour market. Her findings confirm that children’s contribution to household income is relatively large (around 20% of family income), and it is critical for the survival of the family, since children are sent to work when parents’ wages are insufficient or inexistent. Hence, she declares that any effort to reduce child labour should take into account the importance of children’s earnings, and therefore take initiatives to address this problem. At a macroeconomic level, “child labour can slow down long-run growth and social development through reduced human capital accumulation”. Regarding adult labour market, however, the author affirms that child workers do not always have an impact on adult employment or adult wages, but that it depends on the structure of the labour market. If adult wages are downward flexible, the presence of children tends to reduce adult wages without affecting adult employment, while if adult wages are at the survival minimum child labour replaces adult employment without affecting wages.
4.2) **CULTURAL AND SOCIAL NORMS**

One of the main causes of child labour surely lies in some cultural values characterizing the various societies around the world that make child labour either acceptable or non-acceptable. For this reason, a good understanding of the social and traditional contexts in which child labour occurs, and a detailed analysis of the perceptions of adults and children about early work, is fundamental in order to successfully tackle this issue and effectively engage communities. Indeed, children’s involvement in work, whether hazardous or not, may be considered as an important mechanism through which children are integrated into their communities, facilitating their transitions to adulthood, as well as the acquisition of skills and knowledge that ensure basic survival (Fassa, Parker, Scanlon, 2010). Social factors are likely to affect also the quality of the public institutions. Majumdar (2001), for example, asserts that the decision to send children to work instead of investing in their education is not only due to parental income constraints, but also to the scarcity of publicly provided educational opportunities. Thus, child labour is the result of not just a parental calculus, but also of the inadequacy of the social policies and institutions. A report analysing the supply and demand factors of child labour issued by the ILO in 2007 cites Richard Anker, who in his work “The Economics of Child Labour: A Framework for Measurement” (2000) emphasizes a case for communities (such as villages and neighbourhoods, religious groups, ethnic groups...) that have an important role in the determination of the level and extent of child labour. The author explains that the importance of communities relies not only on their capacity of establishing and shaping values and traditions, but also on the fact that some of the most important and efficient child labour policy are those implemented at the community level. Moreover, the author states that local labour market conditions are responsible of the determination of work opportunities for children and their hazardousness, since children are generally unable to migrate in search of better work. Also Humphries (2010) recognizes that child labour is primarily a consequence of poverty, but it may well have other causes related to the cultural context in which child labour occurs, such as the conception of childhood and the value of children. According to the author, the cost of having a child labourer involves two elements: the cost of the child’s forgone leisure and the stigma cost deriving from the disrepute associated to child labour.
Standard arguments consider the stigma cost to be a decreasing function of the number of child workers, and thus related to the degree of acceptability of child labour present in the society. Humphries then concludes that stigma costs – and therefore social norms – are compatible with multiple equilibria, and thus two innately identical societies can socially engineer themselves into different levels of child labour which, once in place, tend to persist.

4.3) PARENTAL ALTRUISM

Parental altruism is a crucial assumption in numerous economic models, from those dealing with education and child labour to those of macroeconomic policy. As previously mentioned, it is broadly assumed that altruism plays a key role in the decision-making that leads parents to send their children to work. Indeed, parents are generally considered to be altruistic toward their children, thus the choice of sending them to work rather than to school is dictated only by a condition of poverty and lack of opportunities for adults. However, this vision is relatively recent, since social reformers in the nineteenth century used to argue that parents were often selfish and exploited their children. Surprisingly, some recent arguments in behavioural development economics recall elements of the nineteenth century view, such as the conviction that the poor are more prone to self-control problems (Banerjee and Mullainathan). Support for this belief can be found in a paper by Parsons and Goldin (1989) dealing with child labour in America in the late nineteenth century. They analyse a rich data source, the Commissioner of Labour Survey conducted by Carrol Wright in 1889–1990, and conclude that “non-altruistic behaviour by parents was pervasive. Even among families with positive assets, child labour was common in certain industrial settings, suggesting that child labour (or non-schooling) did not simply reflect parental borrowing constraints.” Bhaskar and Gupta (2001) re-examine the question posed by Parsons and Goldin using the same data, and computing the wage gains that adult males would have earned if they had had the possibility to choose jobs in the non-child labour areas. Their findings prove that their income would have been much higher if they could relocate to areas without child labour opportunities. Therefore, the authors conclude that households with child workers did not voluntarily chose the so called “low wage, child labour” option, but were unable to get high-
wage jobs for adults. The decision to send children to work was thus the result failure of constraints rather than preferences. Moreover, they also use the data to estimate child labour supply functions, and find remarkable income effects, indicating that the rise in incomes played a key role in the reduction of child labour.

Developing a two-period model with altruistically linked family members, Baland and Robinson (2000) analyse the conditions under which choices made by parents about whether to allow their children to work or not are inefficient. They demonstrate that child labour is inefficient when it is used by parents as a substitute for negative bequests (transfer of income from children to parents) or, because of capital market imperfections, as a substitute for borrowing (transfer of income from the future to the present). Moreover, the researchers show that when the level of child labour is inefficient, because of liquidity constraints or because altruistic transfers are at a corner, a ban on child labour can be Pareto improving. In contrast to these findings, Bommier and Dubois (2004) argue that the inefficiency of child labour may persist even without market imperfections and in presence of altruistic transfers, and that child labour may result only from the inability of family ties driven by altruism to reach efficient outcomes. The authors set up a non-cooperative game between parents and children, where the first action is decided by the parents and the transfers are chosen by the children. The disutility of child labour is central since it generates a breakdown of the transferable utility condition. It is shown that two-sided altruism allows the disutility of child labour to be taken into account by reducing its level, but not enough to reach the efficient level. It is also shown that labour disutility reduces the likelihood that a marginal ban on child labour will be Pareto improving. To sum up, the authors show that when parents are not altruistic enough, there is a ‘rotten parents’ effect in which parents rationally choose a level of child labour that is inefficiently high. This result holds even if parents expect to receive transfers in the later period of their life. In fact, as soon as preferences include child labour disutility, parents and children’s utilities are not transferable and the existence of altruistic family transfers does not guarantee that the family will choose an efficient level of child labour.
4.4) CREDIT CONSTRAINTS AND INCOME DISTRIBUTION

Once poor households get access to efficient credit and insurance markets, we would immediately think that they would invest in education instead of sending their children to work, since in such a context, resource constraints would no longer represent a concern and altruistic parents would choose to send their children to school. This is indeed the scenario depicted by the already cited Baland and Robinson, while Grote, Basu and Weinhold (1998) deal with the interrelationship between the market for child labour and that for schooling developing a model which shows that, under certain conditions, the major causes for the emergence and existence of child labour may be the high cost of education and credit market imperfections. In general, the literature that tries to investigate the relationship between, for example, poverty and credit market imperfections or the incidence of child labour and the development of the financial sector of the economy, is quite substantial. Deheja and Gatti (2002) examine the interaction between child labour and access to credit at a cross-country level. Their evidence confirms the existence of a strong association between child labour and share of private credit issued by banks to GDP, interpreted as a proxy of access to credit. This relationship seems to be particularly large when analyzing poor countries, which have both less developed financial markets and greater child labour and, as such, are of greater policy interest. The results obtained by the two are of particular importance because they open an important policy window on fighting the problem of child labor. Increasing household access to credit could be a useful method to tackle the phenomenon of child labor, and it is surely more efficient than other remedies. Compared to legal restrictions and direct bans, it can decrease child labor without damaging household welfare, and can have a more direct impact than general economic development. Ranjan (1999) demonstrates how poverty, combined with credit constraints, can expand the extent of child labour in developing countries. The theoretical model of a developing economy proposed by the author shows that child labour arises due to imperfections in the credit market. The model explores the education/child-labour trade-off, as a child at work is most likely to be out of school; moreover, he gives rise to a discussion on whether the emergence of informal credit markets in developing countries may be seen as a substitute for the missing formal credit markets. It is argued that informal credit markets work mainly for
short-term loans to meet unforeseen contingencies, whereas poor households need long-term credit to be able to substitute for the foregone earnings of their children, which are unlikely to be compensated through the informal credit markets. This, according to the author, creates a role for government intervention to improve welfare. In 2001, the same author also develops an overlapping generations general equilibrium model in which inefficient child labour arises due to credit constraints. Furthermore, a positive relationship between inequality in the distribution of income and the incidence of child labour is derived. Basu and Chau (2003) conducted a cross-national study and constructed a theoretical model demonstrating that a large asymmetry in credit access and the lack of reliable legal and financial systems through which the poor can secure loans to safeguard against hunger represent two major causes of child labour in debt bondage, which in turn constitutes an additional reason why children are put to work and perpetuates poverty, especially among agrarian households. Consequently, child labour in debt bondage is the result of an institutional arrangement in which labour and credit contracts are interlinked and outstanding household debts are paid at least in part through the labour services of children. Their empirical findings also reveal the existence of a strong correlation between the likelihood of the incidence of child labour in debt bondage with the enforcement of core labour rights in a country and the stage of its economic and financial development. Rammohan (2001) examines the link between development of financial capital markets, old security and fertility, when child labour is prevalent. The model demonstrates that when returns from financial capital markets increase, fertility levels and investment in children's schooling are reduced, but child labour levels increase. However, the return to child labour is also an important determinant of fertility decisions. In particular if there is a child labour market, fertility decisions are determined mainly by the child wage rate and child rearing costs. Finally, the model shows that the development of financial capital markets implies a reduction in the borrowing rates and leads to an increase in schooling investments and a reduction in child labour. Udry (2001) offers an interesting point of view on modelling child labour in a context of credit market imperfections. He argues that in presence of high interest rates, if a child is able to generate a lot of income by working and has already had sufficient schooling so that additional years of education would have a relatively small
impact on her future income, then parents deduce that the immediate benefit of sending their child to work might be large enough to offset the present discounted value of her future lower income as a less well-educated adult. On the other hand, in presence of low interest rate, if the current earnings gained by the child thanks to her work is relatively low and further schooling for the child would greatly increase her future income, then the immediate benefit of the child working would not be sufficient to outweigh the present discounted value of her future higher income from attending school, and from a social point of view she should stay in school. If financial markets operate smoothly and there are no issues of agency, this is indeed the calculus that guides the decisions of parents as they make choices regarding the trade-off between work and school for their children. In this case, even if parents are poor, perfect credit markets allows them to borrow to finance the education their children, confident in their ability to repay the loan out of the increased earnings of their well-educated adult children. These private decisions would be socially optimal. However, in the real world financial markets are not sufficiently well-developed to support the optimal calculus: a parent who is unable to smoothly transfer income from the far future into the present by borrowing will therefore choose too high a level of child labour. The author also considers the agency problems that may arise within families, since, as already said, decisions regarding child labour and schooling are generally made by parents. Indeed, even if parents behave altruistically towards their children, the difficulty of making commitments that bind over generations may make it to achieve optimally low levels of child labour. The importance of the effect of income distribution in the economy for the determination of child labour has been recognized and theoretically established in numerous studies. Rogers and Swinnerton (2001) extend a model that they previously developed (Swinnerton and Rogers 1999) in order to demonstrate how an equal distribution of income in wealthy countries tends to reduce or eliminate child labour, in low-productivity ones a more fair distribution tends instead to exacerbate it. This happens because while an improvement in income distribution increases income for the poorest bracket of the population, it also spreads a given amount of resources more broadly, lowering incomes for wealthier parts of the population. However, in third-world countries it is likely that a significant fraction of wealthier families may be on the margin of sending their children to
work, and a redistribution causes child labour to rise among them. Moreover, the redistributed resources flowing to the poorer families are not sufficient to lower child labour among them by enough to counterbalance the increase among the wealthier families. Their study then illustrates that those policy measures designed to promote equality in low-productivity economies focusing only on the poorer households may have a perverse effect if these countries do not have access to outside resources or experience increases in productivity, that would consequently imply higher wages and therefore levels of parental income sufficiently high so that children need not work.

4.5) OPPORTUNITIES OF SCHOOLING

Studies confirm that a trade-off between child schooling and child labour also exists, and the relationship between the two has been examined by the theoretical literature. Indeed, child labour usually damages the acquisition of human capital by impeding constant school attendance and harming children’s physical and psychological health. However, this is a complex issue to address. Lopez Calva et al (2002), for example, investigated the impact of compulsory schooling on the incidence of child labour using a dynamic, overlapping-generations general equilibrium setting. In their model, they assume that both human and physical capital is accumulated, and parents altruistically care about their own consumption and the human capital they bequeath to their children. They suggest that, under particular conditions, household welfare would be higher if compulsory schooling laws were eliminated and children could work more hours. This is justified by the fact that the reduction of household income caused by the “loss” of the child worker decreases the accumulation of physical capital, without compensating the family with a high enough accumulation of human capital. In this way, the economy cannot reach the threshold beyond which child labour is eliminated endogenously. Udry (2004) asserts that the best way to prevent children from being exploited in work activities inappropriate for their age consists in promoting school attendance by improving the quality of education. This is indeed a very efficient way, according to the author, to break the vicious cycle of poverty in which the descendants of poor people cannot enhance their status because they could not receive a proper education, thus remaining trapped in an equilibrium of misery excessive child labour.
With improved schooling attainments, instead, the next generation’s income will be higher, allowing future parents to provide their children a better education. Udry also underlines that a raise in household income produces a reduction in child labour and an increase in school enrolment, but this does not mean that increases in wages automatically diminishes the number of child workers. The tendency of parents to send their children to school instead of work when they become better off represents a phenomenon that economists call a positive “income effect”. This is likely to happen when a family enhances its economic condition when, for example, the government provides unconditional grant funding. On the contrary, additional income as a result of an increase in wages tends to be counterproductive. Wages of adults and children tend to move together, so an increase in child wages increases the effective cost to the household of sending a child to school rather than to work. For every hour that children spend in school and not, and thus not working, the household’s current consumption is reduced by more when the child’s wage is higher. This “substitution effect,” therefore, tends to increase the incidence of child labour.

Anker and Melkas (1996) describe the interrelationships existing between poverty, fertility, child work, school enrolment and economic development. Poor families indeed generally have more children, partly because the existence of child labour reduces the cost of having children. However, creating a numerous family in turn increases the necessity of income, reduces the education levels of future generations, thereby contributing to ensure that future generations will have high fertility, since parents education is one of the most important determinants of fertility. Interrupting this circle may impose an extra burden on the generation that does so. On the demand side, indeed, employers may fear that without the contribution of child workers it would be impossible to perform certain activities within specific industries. They also argues that significant factor in discouraging children from attending school is represented by the inadequacy of education systems. In order to make schools more available, relevant and appealing, it is essential to know exactly what kind of problems children face in this regard, and what they expect from school. This implies the need to improve the educational infrastructure besides providing economic incentives to families and children that replace the lost income of children. Grimsrud (2001) states that the decision on how much time a child should spend at school or work is influenced by both
job opportunities and the assessment of the cost and benefits deriving from schooling. Evidently, the supply of child labour tends to raise along with the costs of education. The total cost to a household of enrolling a child in school is even higher, including not only the sum of the direct money costs but also the opportunity costs, which corresponds to implicit costs of the time that children devote to schooling, travelling to school and doing schoolwork at home. These factors affect the possibility of combining schooling and work activities, and inflexible schooling schedules may unnecessarily increase the opportunity costs of going to school. In the harvest season, for example, the household may need all help available, while in other periods of the year the opportunity cost of children’s time is much lower.

Rammohan (2000) develops a theoretical framework that incorporates fertility, consumption and education decisions in a model where there is a child labour market. This model particularly reflects the situation characterizing many developing countries, in which decisions related to schooling and fertility are often made in an environment where children contribute to household income through child labour and, once adult, provide for their parents’ old-age security. Two important considerations can be made when examining this model. First, the child wage rate is shown to be an important determinant of fertility: an increase in child wage rate indeed tends to lead to higher fertility levels, since households employ more children in the labour force. Thus, a decrease in the child wage rate, accompanied by compensation for loss of child labour income, may be a powerful policy combination in fertility and child labour reduction programs. Conversely, factors such as returns to schooling have no relevant impact fertility decisions. The second consideration regards the fact that, higher schooling costs lead to a decline in schooling investment. However, changes in schooling costs do not affect fertility decisions, but only affect the child labour-schooling allocation. From a policy perspective, the model raises come important issues, for example by explaining under which conditions the fertility levels may be at their biological maximum and there is no investment in children’s schooling. This is likely to happen, for instance, if marginal child benefits are greater than marginal child rearing costs. Finally, also Doepke and Zilibotti (2005) investigate the relationship existing between family size and education, developing a political economy model in which child labour regulations
(CLR) in the form of ban are endogenously introduced. When deciding whether to oppose or support CLR, adult people take into consideration two effects: the fact that child workers bring income to the household, and the potential impacts of the regulations on current and future wages. Since excluding children from the labour market lowers wages for the so-called “skilled workers”, this type of people tend to disagree with the introduction of the ban, while the “working class” representing the unskilled workers weigh the loss of child labour income against the positive effect on adult unskilled wages. Unskilled workers indeed compete with children in the labour market, and could earn higher wages if child labour was restricted or prohibited. The trade-off faced by the unskilled labour force may lead to different opinion toward a ban child labour: young unskilled workers who have not yet chosen fertility can decide to have smaller families and educate their children, but most adults, however, have already had a certain number of children, and are stuck with a given family size. In the second case, the potential consequences of restrictions on child labour on household income are likely to lead parents to oppose the ban.

The authors continue their study describing the multiple steady-states equilibria that can characterize an economy: in one steady state, family size is large, many children are employed in work activities and the support for the introduction of child labour regulations is scarce. In another steady-state, family size is small, child labour is prohibited and legal restrictions are strongly supported. The presence of multiple steady-states may represent an explanation why some developing countries are stuck in equilibria in which a large number of children work and the support for the development of regulations is weak.
5. **ECONOMIC ANALYSIS**

In the previous chapter I presented a literature review underlining the importance of economic growth as a determinant of child labour. Hence, here I investigate the relationship between a country’s GDP per capita and its rate of child labour incidence, analysing panel data for 19 developing countries for the period 1999-2014. The choice of the countries was based on the availability of data related to the percentage of children in employment in the considered lapse of time.

Several authors examined this type of relationship, in particular by hypothesizing that there exists an inverted U-shaped Kuznets’s curve between a nation’s income and its child labour incidence. In this context, the most popular paper is surely the one produced by Kambhampati and Rajan (2006). The authors indeed assert that economic growth tends to decrease the supply of child labour in the labour market, increasing adult wage rates and creating more employment opportunities for adults. Moreover, a prosperous economy may start introducing binding rules regarding child labour and schooling, creating a socio-cultural environment that perceives children not only as economic assets, but also in terms of their emotional and psychological contribution to the household. However, economic growth has an impact also in the demand for child labour. At an early stage of economic growth, the jobs that become available, particularly in rural areas, are low-skilled jobs. But as the economy continues to grow, the supply of low-skilled jobs tends to dry up, meaning that sustained growth will result in an increase of high-skilled job supply in both the agricultural and industrial sector. In turn, this will increase the demand for schooling and decrease child employment. They focus their analysis to India, where they were able to obtain data at household-level and, using a probit model, they find results that confirm their hypothesis.

Del Carpio (2008), instead, concentrates on household-level observations obtained from an experiment conducted in a poor region of Nicaragua in 2005 and 2006, in the context of a conditional cash transfer program. The model developed by the author relates child labour to household income, preferences and production technology, and reveals that child labour does not necessarily decline when household income increases, but “follows” an inverted U-
shaped curve. However, these results vary according to age, gender, and the type of work that is performed (physical or non-physical).

5.1) DATA AND METHODOLOGY

The countries that I considered are the following, that I have grouped according to their per capita gross national income GNI, following the classification made by the World Bank:

- LOW-INCOME ECONOMIES (GNI per capita of $1,025 or less in 2015): El Salvador, Guatemala, Malawi, Mali, Rwanda, Tanzania;
- LOWER MIDDLE-INCOME ECONOMIES (GNI per capita between $1,026 and $4,035): Bolivia, Cambodia, India, Mongolia, Nicaragua;
- UPPER MIDDLE-INCOME ECONOMIES (GNI per capita between $4,036 and $12,475): Brazil, Colombia, Dominican Republic, Ecuador, Mexico, Panama, Peru, Venezuela.

All the data that I employed are found in The World Bank Databank. Here below, Tables 11, 12 and 13 provide an insight into the nature of this empirical study.

**Table 11: Change in GDP per capita and child labour, low-income economies**

<table>
<thead>
<tr>
<th>Country</th>
<th>% Δ GDP</th>
<th>Δ % Child Labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malawi</td>
<td>+70</td>
<td>-0.78</td>
</tr>
<tr>
<td>Mali</td>
<td>+68</td>
<td>-38.3</td>
</tr>
<tr>
<td>Rwanda</td>
<td>+176</td>
<td>-33</td>
</tr>
<tr>
<td>Tanzania</td>
<td>+126</td>
<td>-9.3</td>
</tr>
</tbody>
</table>

**Table 12: Change in GDP per capita and child labour, lower middle-income economies**

<table>
<thead>
<tr>
<th>Country</th>
<th>% Δ GDP per capita</th>
<th>Δ % Child Labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>+96</td>
<td>-4.2</td>
</tr>
<tr>
<td>Cambodia</td>
<td>+228</td>
<td>-51.6</td>
</tr>
<tr>
<td>El Salvador</td>
<td>+70</td>
<td>-9.6</td>
</tr>
<tr>
<td>Country</td>
<td>% Δ GDP per capita</td>
<td>Δ % Child Labour</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>India</td>
<td>+196</td>
<td>-4,5</td>
</tr>
<tr>
<td>Guatemala</td>
<td>+61</td>
<td>-27,7</td>
</tr>
<tr>
<td>Mongolia</td>
<td>+233</td>
<td>-5,6</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>+88</td>
<td>+51,2</td>
</tr>
</tbody>
</table>

Table 13: Change in GDP per capita and child labour, upper middle-income economies

<table>
<thead>
<tr>
<th>Country</th>
<th>% Δ GDP per capita</th>
<th>Δ % Child Labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>+86</td>
<td>-5,8</td>
</tr>
<tr>
<td>Colombia</td>
<td>+114</td>
<td>+2,3</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>+124</td>
<td>-0,2</td>
</tr>
<tr>
<td>Ecuador</td>
<td>+99</td>
<td>-5,5</td>
</tr>
<tr>
<td>Mexico</td>
<td>+77</td>
<td>-4,9</td>
</tr>
<tr>
<td>Panama</td>
<td>+159</td>
<td>-3,6</td>
</tr>
<tr>
<td>Peru</td>
<td>+142</td>
<td>+4,6</td>
</tr>
<tr>
<td>Venezuela</td>
<td>+60</td>
<td>-12,8</td>
</tr>
</tbody>
</table>

As we can notice, all the countries experienced exceptional GDP per capita growth, especially Mongolia, Cambodia and India. However, in Colombia, Peru and especially in Nicaragua this growth was accompanied by a strong increase in child labour. This recalls the hypothesis previously illustrated, according to which a significant economic growth, and therefore a greater availability of low-skilled jobs, may lead to a temporary increase in the demand for child labour. Thus, in order to see whether an inverted U-shaped relationship between child labour incidence and GDP per capita exists also for the countries and the time lapse that I considered, I decided to test the following specifications:

\[
CHILD_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 GDP_{it}^2 + \beta_3 BIRTH_{it} + \beta_4 TRADE_{it} + \beta_5 EDUC_{it} + \beta_6 AGRIC_{it} + \epsilon
\]  

(1)
\[ CHILD_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 GDP_{it}^2 + \beta_3 BIRTH_{it} + \beta_4 TRADE_{it} + \beta_5 EDUC_{it} + \beta_6 AGRIC_{it} + \beta_7 D1_{it} + \beta_8 D2_{it} + \varepsilon \] 

(2)

\[ CHILD_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 GDP_{it}^2 + \beta_3 BIRTH_{it} + \beta_4 TRADE_{it} + \beta_5 EDUC_{it} + \beta_6 AGRIC_{it} + \beta_7 D1_{it} + \beta_8 D2_{it} + \beta_9 D3 + \varepsilon \] 

(3)

\[ \forall i = 1, \ldots, N \text{ where } N \text{ refers to the number of cross-sectional units}; \]

\[ \forall t = 1, \ldots, T \text{ where } T \text{ refers to the number of annual time periods}. \]

The variables employed are explained as follows:

- **CHILD** refers to the percentage of children aged 7 - 14 that are economically active in each country. The data were collected from household surveys by the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and national statistical offices. “Children that are economically active” corresponds to those children performing economic activities related to market production and certain nonmarket production, including production of goods for own use. It excludes unpaid household services (the so-called "household chores"), that is, the production of domestic and personal services by household members for a household's own consumption, a type of work that is more commonly performed by girls. The World Bank warns us that although efforts are made to harmonize the definition of employment and the questions on employment in survey questionnaires, some differences persist in the survey instruments that collect data on children in employment and in the sampling design underlying the surveys.

- **GDP** represents the gross domestic product per capita converted to international dollars using purchasing power parity rates.
• **BIRTH** refers to the crude birth rate, which indicates the number of live births occurring during the year, per 1,000 population estimated at midyear. Vital rates are based on data from birth and death registration systems, censuses, and sample surveys by national statistical offices and other organizations, or on demographic analysis.

• **TRADE** is the sum of exports and imports of goods and services measured as a share of gross domestic product.

• **EDUC** refers to the net enrolment rate in primary education, the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. Data on education are collected by the UNESCO Institute for Statistics from official responses to its annual education survey.

• **AGRIC** refers to agriculture, value added (% of gross domestic product). Agriculture comprises forestry, hunting, and fishing, cultivation of crops and livestock production, while value added corresponds to the net output of a sector after adding up all outputs and subtracting intermediate inputs.

• D1 is a regional dummy taking on a value of 1 if country \( i \) is an African state, and a value 0 if it is South American or Asian.

• D2 represents another regional dummy taking on a value of 1 if country \( i \) is South American, and a value 0 if it is African or Asian.

• D3 represents a dummy assuming value 1 if country \( i \) belongs to the category “upper middle-income country”, and value 0 if otherwise.

Thus, the first model aims at testing the existence of a child labour Kuznets curve while controlling for the major determinants of child labour; the second model, by adding regional dummies, wants to determine whether certain geographical regions display a higher child labour incidence than others; finally, the third model, by adding the dummy that distinguishes countries belonging to the upper middle-income group from the others, aims
at investigating whether child labour is more common in states with a certain level of gross national income.

Concerning the signs of the coefficients, if a Kuznets curve existed, I should expect the coefficient of $GDP_{it}$ to be positive, while the coefficients of $GDP_{it}^2$ should be negative. $BIRTH$ is used as a proxy for household size, and we know that the higher the number of family members, the higher the explicit and opportunity costs of educating children; thus, I would expect this variable to be positively associated with child labour. Concerning $TRADE$, I could expect this variable to be positively associated to the incidence of child labour, especially if a country has a high level of exports (economic theory indeed often states that the higher the level of export from a country, the higher the demand for both adult and child labour). $EDUC$ should be expected to show a coefficient with negative sign, since better schooling opportunities should stimulate parents in investing in their children’s education. Finally, concerning $AGRI$, I would expect it to be positively associated to child labour, which is generally concentrated in the agricultural sector.

Appendices A,B,C,D,E, F and G present the graphs that I drew in order to analyse the trend of the variables. In Appendix A we may notice that, unsurprisingly, the highest percentages of child labour in 2014 can be find in low-income countries such as Malawi, Mali and Tanzania, but considerably high figures are spotted also in Nicaragua and Peru. An important comment that has to be made when looking at the graph concerns the fact that in several countries the trend of child labour went up and down during the period considered, instead of following a linear path.

Appendix B shows us the trend of per capita GDP. As already mentioned, all countries experienced an exceptional growth in GDP per capita, even though in some case this growth was accompanied by an increase in child labour.

Appendix C, and in particular Appendix C1, shows the relationship between child labour and GDP per capita. We can notice that child labour is more concentrated in those countries having a GDP per capita ranging between 5000$ and, roughly, 12000$.

A declining path was instead followed in almost all countries, with the exception of Mongolia, by the crude birth rate, as illustrated in Appendix D. This fact is not surprising,
since it is well known that as a country approaches a more wealthy economic condition, the number of children born tend to diminish.

Concerning the percentage of children enrolled in primary education, Appendix E shows that for in low-income economies such number increased especially in Malawi and Tanzania; in lower middle-income economies it remained quite stable in Bolivia, El Salvador, Mongolia and Nicaragua, while followed a rough inverted U-shaped trend in Guatemala and Cambodia.

For what concerns trade (measured as percentage of GDP), Appendix F reveals that this factor followed an irregular path during the years taken into exam, and in particular we can notice that a sharp fall occurred in Malawi from 2000 to 2001. Moreover, it is of particular interest the fact that, among the upper middle-income countries that on average show a level of trade to below 90% of GDP, Panama present an average level of trade much higher than 100% of GDP.

Appendix G shows the agriculture valued added, measured as share of GDP. We can easily notice that countries with a lower GNI per capita tend to have an economy strongly based on the agricultural sector.

Employing panel data methodology, I estimated the equation using at first the pooled OLS approach, and subsequently the fixed effects model, which controls for all time-invariant differences between the countries.

5.2) RESULTS

Tables in Appendix H show summary statistics for the selected variables. I wish to underline that, in order to obtain more accurate coefficient estimates, GDP is expressed in thousands of US$, and is denoted as “scaled GDP” (GDP_SC). In Appendix H1, which considers the overall sample, we can notice that child labour incidence ranges from 0,8% (percentage observed in Ecuador in 2014) to 69,1% (observed in Mali in 1999), with a mean around 18%. Concerning GDP, the sample mean is 6,28033 thousands of US$ per capita, with a minimum value of 0,605 thousands of US$ (reached by Rwanda in 1999) and a maximum value of 2,11302 thousands of US$ (reached by Panama in 2014). Appendices H2, H3 and H4 consider instead the three subgroups created according to the national level of income:
unsurprisingly, the subgroup with the highest average level of child labour incidence (33.44%) is the one including low-income economies.

Table 14 shows the results obtained by the estimation of equation (1), using the pooled OLS approach; I want to underline that, based on the results of White’s test for heteroscedasticity, I found heteroscedasticity to be a problem in all the models. Thus, heteroscedasticity and autocorrelation consistent (HAC) estimation was applied, in order to obtain more precise standard errors.

Table 14: Model (1), pooled OLS method

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST</td>
<td>-7.09699</td>
<td>16.9472</td>
<td>-0.4188</td>
<td>0.6803</td>
</tr>
<tr>
<td>GDP_SC</td>
<td>-0.735273</td>
<td>1.70860</td>
<td>-0.4303</td>
<td>0.6721</td>
</tr>
<tr>
<td>BIRTH</td>
<td>0.816764</td>
<td>0.322277</td>
<td>2.534</td>
<td>0.0208  **</td>
</tr>
<tr>
<td>TRADE</td>
<td>0.0896735</td>
<td>0.0680658</td>
<td>1.317</td>
<td>0.2042</td>
</tr>
<tr>
<td>AGRIC</td>
<td>0.146504</td>
<td>0.233843</td>
<td>0.6265</td>
<td>0.5388</td>
</tr>
<tr>
<td>EDUC</td>
<td>-0.0109195</td>
<td>0.150088</td>
<td>-0.07275</td>
<td>0.9428</td>
</tr>
<tr>
<td>SQ_GDP_SC</td>
<td>-0.112072</td>
<td>0.0750323</td>
<td>0.1494</td>
<td>0.88329</td>
</tr>
</tbody>
</table>

R^2: 0.506792

* Statistically significantly different from zero at 10% level
** Statistically significantly different from zero at 5% level

Looking at the results, we notice that all the variable takes on the expected signs, with the exception of the GDP_SC and SQ_GDP_SC, that in case of a Kuznets curve should be the opposite of the ones observed in the estimation. However, almost all the variables are statistically insignificant. Only BIRTH is statistically significantly different from zero, meaning that, considering the overall sample, in the period of time taken into analysis the greatest impact on child labour incidence was produced by the variable used as a proxy of household
size. This confirms the literature that states that the higher the number of children in the family, the higher the possibility that parents will choose to send them to work in order to contribute to the family needs.

I then proceeded with the estimation of the equation (2), which adds the regional dummies to equation (1). The results are shown in the Table below.

**Table 15: Model (2), pooled OLS method**

<table>
<thead>
<tr>
<th>Model (2): Pooled OLS, using 304 observations</th>
<th>Included 19 cross-sectional units</th>
<th>Time-series length: 16</th>
<th>Dependent variable: child</th>
<th>Robust standard errors(HAC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient</td>
<td>Std. Error</td>
<td>t-ratio</td>
<td>p-value</td>
<td></td>
</tr>
<tr>
<td><strong>CONST</strong></td>
<td>-29,3377</td>
<td>15,8838</td>
<td>-1,847</td>
<td>0,0813</td>
</tr>
<tr>
<td><strong>GDP_SC</strong></td>
<td>-0,0834129</td>
<td>1,69085</td>
<td>-0,04933</td>
<td>0,9612</td>
</tr>
<tr>
<td><strong>BIRTH</strong></td>
<td>1,22661</td>
<td>0,475693</td>
<td>2,579</td>
<td>0,0189</td>
</tr>
<tr>
<td><strong>TRADE</strong></td>
<td>0,0563963</td>
<td>0,0605278</td>
<td>0,9317</td>
<td>0,3638</td>
</tr>
<tr>
<td><strong>AGRIC</strong></td>
<td>0,846646</td>
<td>0,312555</td>
<td>2,709</td>
<td>0,0144</td>
</tr>
<tr>
<td><strong>EDUC</strong></td>
<td>-0,0771149</td>
<td>0,136029</td>
<td>-0,5669</td>
<td>0,5778</td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>-14,6865</td>
<td>11,8037</td>
<td>-1,244</td>
<td>0,2294</td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>10,0844</td>
<td>4,78809</td>
<td>2,106</td>
<td>0,0495</td>
</tr>
<tr>
<td><strong>SQ_GDP_SC</strong></td>
<td>0,0130843</td>
<td>0,0750499</td>
<td>0,1743</td>
<td>0,8635</td>
</tr>
</tbody>
</table>

$$R^2: 0.555792$$

*Statistically significantly different from zero at 10% level

**Statistically significantly different from zero at 5% level

Recalling that D1 takes on a value of 1 if country $i$ is African and 0 otherwise, while D2 takes on a value of 1 if country $i$ is South American, we can see that the situation has changed. All the coefficients show the predicted sign, except GDP_SC and SQ_GDP_SC, but this time in addition to BIRTH also the variable AGRIC is statistically significantly different from zero at 5% level, confirming the expectation according to which those economies that strongly rely on agricultural production tend to have a high number of child workers. Moreover, the
coefficient estimate for D2, that is statistically significantly different from zero at 5%, is positive, meaning that child labour is more common in South America than in Africa or Asia. Thus, the estimation of equation (2) reveals that distinguishing countries on the basis of the continent they belong to gives us more information about the factors that impacted child labour incidence in the states and during the lapse of time considered. In particular, it demonstrates that great household size and the predominance of the agricultural sector in an economy tend to enhance the percentage of child labourers.

At this point I proceeded with the estimation of equation (3), which adds a third dummy that distinguishes countries according to their level of national income. The results are shown below:

Table 16: Model (3), pooled OLS method

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONST</td>
<td>-30,5655</td>
<td>15,6784</td>
<td>-1,950</td>
<td>0,0670  *</td>
</tr>
<tr>
<td>GDP_SC</td>
<td>-0,267464</td>
<td>1,77609</td>
<td>-0,1506</td>
<td>0,8820</td>
</tr>
<tr>
<td>BIRTH</td>
<td>1,25240</td>
<td>0,472977</td>
<td>2,648</td>
<td>0,0164  **</td>
</tr>
<tr>
<td>TRADE</td>
<td>0,0598084</td>
<td>0,0628143</td>
<td>0,9521</td>
<td>0,3536</td>
</tr>
<tr>
<td>AGRIC</td>
<td>0,878135</td>
<td>0,307280</td>
<td>2,858</td>
<td>0,0105  **</td>
</tr>
<tr>
<td>EDUC</td>
<td>-0,0752922</td>
<td>0,134935</td>
<td>-0,5580</td>
<td>0,5837</td>
</tr>
<tr>
<td>D1</td>
<td>-15,7232</td>
<td>11,8924</td>
<td>-1,322</td>
<td>0,2027</td>
</tr>
<tr>
<td>D2</td>
<td>9,80333</td>
<td>4,85439</td>
<td>2,019</td>
<td>0,0586  *</td>
</tr>
<tr>
<td>D3</td>
<td>2,22382</td>
<td>5,39674</td>
<td>0,4121</td>
<td>0,6852</td>
</tr>
<tr>
<td>SQ_GDP_SC</td>
<td>0,0170001</td>
<td>0,0750439</td>
<td>0,2265</td>
<td>0,8233</td>
</tr>
</tbody>
</table>

R²: 0,557527

* Statistically significantly different from zero at 10% level
** Statistically significantly different from zero at 5% level
Again, all the coefficients assume the expected sign, apart for \( GDP_{SC} \) and \( SQ\_GDP\_SC \) which, once again, indicates that there is no inverted U-shaped relationship between child labour and GDP per capita. \( D2 \) is still statistically significantly different from zero while \( D3 \), despite not being significant, shows a positive coefficient, meaning child labour is more common in upper-middle income countries rather than in low-income or lower middle-income ones. This outcome is not surprising, since the upper middle-income group of countries is basically constituted by South American nations, and we know from the estimation results of equation (2) that it is more likely to find child labour in this area rather than in Africa or Asia. \( TRADE \) and \( AGRIC \) keep on being statistically significant, confirming the considerations made for the results of the previous model.

In summary, analyzing the outcomes obtained by utilizing the pooled OLS approach leads us to conclude that, concerning the sample and the period of time considered, the most significant impact on child labour incidence was not caused by the level of income per capita, but rather by the type of sector that is preponderant in an economy and family size. However, pooled OLS method does not control for those unobservable factors that distinguish countries from one another. For example, as discussed in the literature review, the cultural and social norms characterizing each state are considered to be important determinant of child labour incidence. These cultural factors are likely to be time invariant, suggesting that applying fixed-effects estimation could be appropriate for equation (1). The results obtained by using fixed-effects methods for estimating specification (1) are presented in the following Table:

**Table 17: Model (1), fixed-effects method**

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
</table>

Model (1): Fixed effects, using 304 observations  
Included 19 cross-sectional units  
Time-series length: 16  
Dependent variable: child  
Robust standard errors (HAC)
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONST</strong></td>
<td>-27,8578</td>
<td>31,9490</td>
<td>-0,8719</td>
<td>0,3947</td>
</tr>
<tr>
<td><strong>GDP_SC</strong></td>
<td>-0,9248843</td>
<td>1,75960</td>
<td>-0,5256</td>
<td>0,6056</td>
</tr>
<tr>
<td><strong>BIRTH</strong></td>
<td>1,59072</td>
<td>0,518248</td>
<td>3,069</td>
<td>0,0066 ***</td>
</tr>
<tr>
<td><strong>TRADE</strong></td>
<td>0,265857</td>
<td>0,186991</td>
<td>1,422</td>
<td>0,1722</td>
</tr>
<tr>
<td><strong>AGRIC</strong></td>
<td>0,428364</td>
<td>0,387087</td>
<td>1,107</td>
<td>0,2830</td>
</tr>
<tr>
<td><strong>EDUC</strong></td>
<td>-0,209374</td>
<td>0,140595</td>
<td>-1,489</td>
<td>0,1537</td>
</tr>
<tr>
<td><strong>SQ_GDP_SC</strong></td>
<td>0,0593562</td>
<td>0,744960</td>
<td>0,7968</td>
<td>0,4360</td>
</tr>
</tbody>
</table>

*R²: 0,756933*

* Statistically significantly different from zero at 10% level
** Statistically significantly different from zero at 5% level

Also in this case, since the non-parametric Wald test revealed heteroscedasticity to be a problem in the model, I applied heteroscedasticity and autocorrelation consistent (HAC) estimation. The results obtained are extremely similar to the ones shown in Table 1, indicating that country-specific factors did not have a strong weight on child labour incidence. Indeed, a more precise picture of the overall situation was offered by estimations presented in Tables 15 and 17, meaning that social and cultural factors had a greater influence when considered at regional level than at country-specific level.
6. CONCLUSIONS

This thesis examines the problem of child labour from both a legislative and economic perspective. From the legislative point of view, numerous important steps forward have been made by countries and international organizations to address this serious issue. In particular, a crucial role is played by the International Labour Organization (ILO) and the United Nations (UN), that constantly commit in sensitizing public opinion about child labour and promoting an efficient cooperation at international level. The conventions and protocols promulgated by ILO and UN represent an essential turning point in the fight against child labour. Among them, we could mention the two most important ones: ILO Minimum Age Convention No.138 (1973), which marks out minimum age for different types of employment, and the Worst Forms of Child Labour Convention No.182 (1999), which aims at ensuring that children in all countries are protected from extreme forms of work. The analysis of the legislation per geographic area clearly shows that, despite the uncontested progress that has been made by many countries, much still needs to be done to remove the obstacles that prevent thousands of children from living a normal childhood. Barriers to education, gender discrimination, inadequate legal protection against human trafficking and worst forms of child labour, such as commercial sexual exploitation, represent a reality that still dominates in many areas, and that seems to be very hard to remove.

This work also shows that child labour is not a phenomenon characterizing only poor and developing countries, but we could say that it influences also our daily life through the more than 100 goods produced by child workers that are sold worldwide and that arrive also in our households. Many of them are indeed basic products that we use every day, such as coffee, cocoa, shoes and sugar. Involving children in the production process of these goods often leads to irreparable consequences: children are robbed of the chance to be adequately educated to pursue other options in life, thus remaining trapped in a cycle that perpetuates poverty from one uneducated generation the next one. Luckily, some measures have been and are going to be taken in order to eradicate child labour from production processes. For example, multinational companies such as Mondelez International and Nestlé have been increasingly committed in addressing supply chain issues, for example by designing programs aimed at improving workers’ social and economic conditions and promoting children’s
education. Other initiatives undertaken by companies regard, for instance, the commitment of sourcing only sustainability certified and child labour free products. A considerable part of this thesis investigates the relationship between child labour and economic growth. To this aim, I reviewed the existing theoretical and empirical literature that attempts to analyse those factors that characterize the supply of child labour. A substantial part of such literature identifies poverty as the most important factor causing the raise of child labour. Indeed, numerous authors assert that the only reason for which parents decide to send their children to work is a lack of employment prospects for adults. However, this decision generally implies that children must give up to their education, remaining low-skilled and low-paid workers that, once adults, will be forced to made the same decision for their own children, thus creating an intergenerational poverty trap – or, more precisely, a “child labour trap”. Other authors have investigated the possible consequences coming from the attempt to reduce poverty level by introducing a minimum wage legislation, concluding that actions aimed at introducing a minimum wage legislation must be carefully managed, since their full impact may be huge. Another factor representing an important cause of child labour is culture: indeed, children’s involvement in work is may be seen as an important mechanism to integrate children in their communities. Moreover, it is also often considered as a way to acquire skills and knowledge that ensure basic survival. A third factor is the so called “parental altruism”. Indeed, parents are generally considered to be altruistic towards their children, thus the choice of sending them to work rather than to school is dictated only by the necessity to meet basic needs. Also credit constraints and the way in which income is distributed are likely to affect child labour. Increasing household access to credit could indeed constitute a useful method to reduce child labour more efficiently than other measures. The last, crucial factor examined in the literature review regard education opportunities. Evidence has shown that there exists a trade-off between child labour and child schooling: child labour indeed usually damages the acquisition of human capital by impeding constant school attendance and harming children’s physical and psychological health. Thus, improving children’s access to schooling could represent an efficient way to break the vicious cycle of poverty caused by a lack of adequate education.
The last part of this work took analysed the relationship between a country’s GDP per capita and its rate of child labour incidence, considering a panel data for 19 developing countries for the period 1999-2014. The aim of this study was to test whether an inverted U-shaped Kuznets curve existed. I thus estimated three different quadratic models using pooled OLS and fixed-effects methods. The obtained results were not consistent with the child labour Kuznets curve hypothesis, but revealed something interesting. First of all, the estimation of equations (2) and (3) showed that for the countries and the lapse of time considered child labour was more common in South America rather than in Africa or Asia. Moreover, it revealed that the greatest impact on child labour incidence was not caused by the level of GDP per capita, but by the crude birth rate and agriculture valued added. This last finding suggests that the agricultural sector should be given a greater attention by governments and institutions, since it represents the area in which child labour is more concentrated. Indeed, one of the causes of child labour in agriculture relies in the scarce coverage by national labour legislations, which should be reviewed so that they fully apply to rural areas and agriculture, including small-scale and family farms and other informal rural undertakings. Also the capacity of labour inspectorates to cover rural areas and ensure the application of labour law should be reinforced, in order to enable them to make informed judgments as to when activities are safe enough for children above the minimum legal age. It is also fundamental not to underestimate the importance of the promotion of social dialogue: in this context, national governments should enhance the representation of the interests of smaller farmers, especially those producing for domestic markets that may receive lower attention in national policy - and where child labour is more prevalent - and support the organization of formal and informal employers’, rural producers’ and workers’ associations, promoting their involvement in scaling-up action against child labour.
BIBLIOGRAPHY


Foreign, Affairs, C., Majesty, C. of H., Available, N. and the Secretary of State Parliament (2006) PROTOCOL TO PREVENT, SUPPRESS AND PUNISH TRAFFICKING IN PERSONS, ESPECIALLY WOMEN AND CHILDREN, SUPPLEMENTING THE UNITED NATIONS CONVENTION AGAINST TRANSNATIONAL


the International Labour Conference Adopted (2010a) ILO declaration on fundamental principles and rights at work and its follow-up. 2nd edn. Geneva: ILO.

the International Labour Conference Adopted (2010b) ILO declaration on fundamental principles and rights at work and its follow-up. 2nd edn. Geneva: ILO.


APPENDIX A: Child labour versus time

Appendix A1: Child labour versus time, low-income economies
Appendix A2: Child labour versus time, lower middle-income economies

Appendix A3: Child labour versus time, upper middle-income economies

APPENDIX B: GDP per capita versus time
Appendix B1: GDP per capita versus time, low-income economies

Appendix B2: GDP per capita versus time, lower middle-income economies

Appendix B3: GDP per capita versus time, upper middle-income economies

APPENDIX C: Child labour versus GDP per capita

Appendix C1: Child labour versus GDP, total sample
Appendix C2: Child labour versus GDP, low income economies

\[ Y = 31.0 - 0.00204X \]

Appendix C3: Child labour versus GDP, lower middle-income economies
Appendix C4: Child labour versus GDP, upper middle-income economies

\[ Y = 30.1 - 0.00223X \]

APPENDIX D: Crude birth rate versus time

\[ Y = 15.7 - 0.000642X \]
Appendix D1: Crude birth rate versus time, low-income economies

Appendix D2: Crude birth rate versus time, lower middle-income economies

Appendix D3: Crude birth rate versus time, upper middle-income economies

APPENDIX E: Enrollment in primary education versus time
Appendix E1: Enrollment in primary education versus time, low-income economies

Appendix E2: Enrollment in primary education versus time, lower middle-income economies

Appendix E3: Enrollment in primary education versus time, upper middle-income economies

APPENDIX F: Trade (% of GDP) versus time
Appendix F1: Trade (% of GDP) versus time, low-income economies

![Graph showing trade (% of GDP) for low-income economies over time for various countries, including Malawi, Mali, Rwanda, and Tanzania.]

Appendix F2: Trade (% of GDP) versus time, lower middle-income economies

![Graph showing trade (% of GDP) for lower middle-income economies over time for various countries, including Bolivia, Cambodia, El Salvador, India, Guatemala, Mongolia, Nicaragua, Brazil, Colombia, Dom. Rep, Ecuador, Mexico, Panama, Peru, and Venezuela.]

Appendix F3: Trade (% of GDP) versus time, upper middle-income economies

![Graph showing trade (% of GDP) for upper middle-income economies over time for various countries, including Brazil, Colombia, Dom. Rep, Ecuador, Mexico, Panama, Peru, and Venezuela.]
Appendix G1: Agriculture valued added (% of GDP) versus time, low-income economies

Appendix G2: Agriculture valued added (% of GDP) versus time, lower middle-income economies

Appendix G3: Agriculture valued added (% of GDP) versus time, upper middle-income economies

APPENDIX H: Descriptive statistics
### Appendix H1: Total sample summary statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD</td>
<td>18,2070</td>
<td>12,5492</td>
<td>0,80000</td>
<td>69,1000</td>
<td>15,113</td>
</tr>
<tr>
<td>GDP_SC ('000)</td>
<td>6,28033</td>
<td>5,72406</td>
<td>0,60500</td>
<td>21,1302</td>
<td>4,3382</td>
</tr>
<tr>
<td>BIRTH</td>
<td>26,8175</td>
<td>23,6890</td>
<td>14,7270</td>
<td>48,4790</td>
<td>8,6952</td>
</tr>
<tr>
<td>TRADE</td>
<td>65,3223</td>
<td>57,6591</td>
<td>20,9821</td>
<td>157,069</td>
<td>30,452</td>
</tr>
<tr>
<td>AGRIC</td>
<td>17,0226</td>
<td>12,7592</td>
<td>3,13332</td>
<td>43,3370</td>
<td>11,849</td>
</tr>
<tr>
<td>EDUC</td>
<td>90,2642</td>
<td>93,9759</td>
<td>43,7472</td>
<td>99,5832</td>
<td>10,288</td>
</tr>
<tr>
<td>D1</td>
<td>0,21053</td>
<td>0,0000</td>
<td>0,0000</td>
<td>1,0000</td>
<td>0,4083</td>
</tr>
<tr>
<td>D2</td>
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<td>1,0000</td>
<td>0,0000</td>
<td>1,0000</td>
<td>0,48317</td>
</tr>
<tr>
<td>D3</td>
<td>0,42105</td>
<td>0,0000</td>
<td>0,0000</td>
<td>0,0000</td>
<td>0,49454</td>
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</table>

### Appendix H2: Summary statistics, low-income economies

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD</td>
<td>33,414</td>
<td>31,886</td>
<td>3,3</td>
<td>69,1</td>
<td>19,9</td>
</tr>
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<td>GDP_SC ('000)</td>
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<td>12,743</td>
<td>6,05</td>
<td>25,505</td>
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</tr>
<tr>
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<td>31,89</td>
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</tr>
<tr>
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<td>50,586</td>
<td>30,747</td>
<td>83,45</td>
<td>52,193</td>
</tr>
<tr>
<td>AGRIC</td>
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<td>33,767</td>
<td>28,784</td>
<td>41,338</td>
<td>34,724</td>
</tr>
<tr>
<td>EDUC</td>
<td>81,195</td>
<td>88,999</td>
<td>43,747</td>
<td>99,583</td>
<td>81,195</td>
</tr>
</tbody>
</table>
### Appendix H3: Summary statistics, lower middle-income economies

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD</td>
<td>19,572</td>
<td>17,34</td>
<td>0,9</td>
<td>64,4</td>
<td>13,752</td>
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<tr>
<td>GDP_SC ('000)</td>
<td>4,7176</td>
<td>4,6361</td>
<td>0,99882</td>
<td>12,012</td>
<td>2,1268</td>
</tr>
<tr>
<td>BIRTH</td>
<td>24,747</td>
<td>24,618</td>
<td>17,314</td>
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<td>4,0258</td>
</tr>
<tr>
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<td>79,916</td>
<td>70,649</td>
<td>24,388</td>
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<td>29,714</td>
</tr>
<tr>
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<td>8,9587</td>
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<td>7,8467</td>
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<tr>
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<td>93,3</td>
<td>78,874</td>
<td>97,828</td>
<td>4,6904</td>
</tr>
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</table>

### Appendix H4: Summary statistics, upper middle-income economies

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<th>Variable</th>
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<th>Min</th>
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<th>Std. Dev.</th>
</tr>
</thead>
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<tr>
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<td>94,803</td>
<td>80,246</td>
<td>99,537</td>
<td>4,2639</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

I would like to take this opportunity to thank Prof. Agar Brugiavini for her support and the attention dedicated to the elaboration of my thesis. A special thanks goes to my parents, Morena and Flavio, and to my sister Michela, for their love, patience and the continuous encouragement.