

Social Standards and Their Impact on Exports: Evidence from the Textiles and Ready-Made Garments Sector in Egypt

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1 Introduction

In the last two decades, trade barriers have changed dramatically in their nature, moving from a transparent tariff to non transparent and vague non tariff barriers. Standards in general, and labor and environmental standards in particular, have been among the most important evolving trade barriers (Anderson 1995; Anderson 1996). Nowadays, a large proportion of international traded goods are subject to standards. For example, about 75% of EU intra trade and 60% of US exports are subject to standards (World Bank 2001). The Trade Policy Review of the European Union in the year 2000 stated that for the future, the market access conditions for exporters of foodstuffs are likely to be affected by the EU's policy of increasingly taking into account food safety issues (see WTO 2000). Standards, whether environmental or social are playing an increasing role in determining the world trade.

This has been a result of a number of developments including the success of the General Agreement of Tariff and Trade (GATT) and the World Trade Organization (WTO) in lowering tariff rates significantly, the shift of the comparative advantage especially in "sensitive sectors" from developed to developing countries, and the strong political muscles gained lately by concerned interest groups including among others environmentalists and labor unions in developed countries (for a similar argument see for example Bhagwati 1995; Lee 1997).

Such developments created a hot debate about the impact of social policies, particularly environmental and labor standards, on trade between developing and developed countries (Berlin and Lang 1993; World Bank 2001). The debate revolves around the legitimacy of social policies and whether they impact trade flows in a negative manner or a positive one. There has been no clear international consensus on the net costs and benefits arising from such regulations on export dynamics and competitiveness in developing countries (Maskus and Wilson 2000). On the one hand, there has been some evidence that the adoption of common

standards tend to reduce imports¹ (World Bank 2001) and that lower standards are associated with a higher revealed comparative advantage (Rodrik 1997) or at least increased labor hiring (and hence increased output and exports) in certain sectors where child labor is allowed (Maskus 1997). Some researchers advocate the need to link trade to the compliance with social standards that require harmonization on a multi-lateral level to stop “racing to the bottom” and ensure “a level playing field” among developing countries (see for example, Adamy 1994; Polaski 2003a; Bullard 2001).

On the other hand, most of the research done in this area that has examined the relationship between trade and labor standards has reached the conclusion that imposing more stringent labor standards on developing countries is a wrong action. It is neither likely to cure the ills of the sensitive sectors in developed countries nor raise the social welfare status of workers in the developing world and hence should not be imposed (see for example, Krugman and Lawrence 1993; Eglin 2001; Golub 1997; Maskus 1997). Empirical research in this field has been scarce to a large extent (see for example Maskus and Wilson 2000; van Beers 1998). The paucity of empirical evidence on this issue has been the main driving force behind the initiation of undertaking this study, which gives an overview of the state of research on this topic worldwide and analyze the impact of labor standards and labels, with special emphasis on child labor in Egyptian export sectors.

2 Identification of Social Standards which Impact Exports in Egypt

Social standards including mainly labor standards and regulations imposed by international organizations and/or major trading partners are expected to have an impact on Egyptian exports. Egypt as a developing country is not expected to have the same rules and regulations concerning labor standards as its major trading partners from the West (mainly the EU and the US which together receive about 70% of total Egyptian exports). For example, Egypt was one of the countries that was against the inclusion of non product-related process and production methods (PPM) under the auspices of the TBT agreement, whereas the EU was in favor of it (cited in Tallontire and Blowfield 2000, p.579). Egypt was also against the US

¹ For example, an OECD study found that differing standards and technical regulations in various national markets, combined with costs of testing and certifying compliance with those requirements can constitute between 2-10% of the firm's overall production costs (cited in Stephenson 1997, p. 21).

proposal of establishing a working party on labor standards as suggested by the US in the Seattle Ministerial Meeting (Panagariya 2000).

In the field of labor standards, the analysis in this study is confined to the so called “core labor standards” (Table 1). The focus on such “core standards” arises from the consensus among the researchers that the imposition of such standards should not deprive the developing countries from their comparative advantage and that their negative consequences on the welfare of their economies are likely to be negligible (see for example, Golub 1997; Dessing 1997).

Table 1. The ILO's core labor standards conventions

Convention	Title	Year	Ratified by Egypt
Convention 29	Forced Labor Convention	1930	1955
Convention 87	Freedom of Association and Protection of the Right to Organize	1948	1957
Convention 98	Right to Organize and Collective Bargaining	1949	1954
Convention 105	Abolition of Forced Labor Convention	1957	1958
Convention 100	Equal Remuneration	1951	1960
Convention 111	Discrimination (Employment and Occupation)	1958	1960
Convention 138	Minimum Age	1973	1999
Convention 182	Worst Forms of Child Labor	1999	2002

Source: Singh and Zammit (2000), ILO (2000); cited in McCulloch et al. (2002)

Egypt has adhered to all these conventions. Nevertheless, there might be legislative loopholes and/or deficiency in the enforcement mechanisms of such conventions. The most evident example of such non-compliance is the issue of “child labor” which has been evident in a number of economic activities in Egypt whether in the agriculture or manufacturing sectors. Non governmental organizations (NGOs) estimated that there are about 1.5 million children working in Egypt below the age of 15 in different fields, mainly related to agricultural activities (Bureau of Economic and Business Affairs 2001).

The child labor phenomenon received increased attention due to the popularity of the “unfair competition in trade” raised by the labor interest groups in the developed countries and their fear of “social dumping” and

“racing to the bottom” especially after the increased globalization of product and factor markets (see for example Anderson 1995;1996). Such phenomenon has not been researched deeply on country and sectoral levels (Stephenson 1997) and has not been proven empirically (for a review see McCulloch et al. 2002; Bhagwati 1995). There has been neither clear cut evidence that adherence to core labor standards is correlated with other measures of economic development nor that such core labor standards develop in a certain direction simultaneously (World Bank 2001). One empirical study undertaken by Kamal, Paul-Majumder and Rahman (1993) has proved that imposing trade sanctions on Bangladesh for usage of child labor in the garments industry had undesirable effects on poverty and did not stop child labor. On the contrary, the dismissed children were forced to join the informal sector with worse conditions² (for more details see McCulloch et al. 2002, p.308, for the results of the study see also World Bank 2001).

Nevertheless the voices for “fair labor standards” still dominate the rhetoric of politicians in developed countries where the national welfare is not the main emphasis, but rather they are driven by the interests of certain groups as labor unions or producers (see for example van Beers 1998). In fact, the EU has adopted a Generalized Scheme of Preferences (GSP) in January 2002 that doubles the tariff cuts for developing countries on a range of sensitive products like agricultural products, textiles, ready-made garments and steel, if the EU finds those applicant countries to protect basic worker rights (Polaski 2003b). This is in line with the previous 1984 GSP amendment under which the US government introduced the possibility of refusing to grant a preferential entry for exports of a beneficiary

² The legal age for employment in the garments industry in Bangladesh is 14, but until 1992, many younger children than this were working in the garments factories. In 1992, the US introduced a bill aiming at banning the import of items produced by children. Under the threat of the bill, the Bangladesh Garments Manufacturers and Exporters Association (BGMEA) announced the elimination of child labor by October 1994. 50,000 children were dismissed. Since the children had been working to earn money to contribute to their own survival their dismissal left them in even worse circumstances than the conditions of their labor. Most of the children were forced into even more dangerous employment— including prostitution— in the informal sector, and many families, dependant on children’s income, faced even greater poverty. The US has undertaken a positive step “in terms of trade” by increasing the import quota from Bangladesh, but does this positive trade effect overcome the negative “social effect” of increased poverty. This is the question that needs to be seriously addressed.

country “which has not taken or is not taking steps to afford internationally recognized worker rights to workers in the country”.

The Egyptian legislation contains two major separate laws. One deals with the labor code in general (Law 12/2003)³ in the labor market, and one deals specifically with rights of the child and hence contains provisions on child labor (Law12/1996)⁴. Confining our analysis to the core labor standards that have been aforementioned, it seems apparent that the Egyptian labor laws comply with the ILO core standards.

Law 12/2003 which amends Law No. 537/1981 improves the conditions concerning the freedom of association and protection, the right to organize, and collective bargaining. Nevertheless, it subjects them to a number of complex procedures that might result in their ineffectiveness in reality. For example, in the collective agreements among labor unions a provision states that they should not contain any contradictions with rules and regulations related to the General Law and ethics, without explicitly identifying what kind of contradictions might occur. Another example relates to the right of the workers to strike which is subject to prior approvals by the labor union that must be notified and they cannot strike without such approval.

Issues of minimum age and worst forms of child labor which are in compliance with core standards from the ILO labor conventions, are well settled in the new comprehensive labor law as well as the child law (Law No. 12/1996). However, their problem lies in enforcement. The major trade partners have accused Egypt of allowing child laborers in different sectors and especially in cotton cultivation working for 11 hours per day

³ For example, the right to strike has been changed by allowing workers now to strike under certain conditions and procedures. On the other hand, it was never allowed to fire workers, not even in difficult economic situations or economic downturns; now it is allowed given certain procedures.

⁴ Egypt's Child Law was adopted in 1996, following recommendations by Egyptian social scientists and children's rights advocates aimed at bringing the country's domestic legislation into conformity with the Convention on the Rights of the Child. The Child Law prohibits the employment of children below the age of 14, but allows children between 12 and 14 to receive vocational training from employers and to take part in seasonal agricultural work, provided that the work “is not hazardous to their health and growth, and does not interfere with their studies”. The law limits the work-day for children to six hours, only four of which may be consecutive, and requires the provision of one or more breaks totaling no less than one hour per day. The law further prohibits children from working during their weekly days off, official holidays, and between the hours of 8 pm and 7 am (Article 66).

for 6 days per week. Until 1996, child labor in Egypt was governed by the labor law which permitted children to work at the age of 12. The inconsistency between the Child Labor Protection Agreement and Egyptian legislation was rectified with the enactment of a law specifically concerning child labor in 1996 (Al Ahram Weekly Online, 9-15 May, 2002, Issue No. 585).

A comprehensive study prepared by the Government's statistical agency in 1988 indicated that 1.309 million children between the ages of 6 and 14 were employed. In November 1999, the Minister of Social Affairs reported that one million children participate in agricultural activities. Governmental studies also indicate that the concentration of working children is higher in rural than urban areas. Nearly 78% of working children are in the agricultural sector. However, children also work as domestic workers, as apprentices in auto repair and craft shops, in heavier industries such as construction, in brick-making and textiles, and as workers in tanneries and carpet-making factories. While local trade unions report that the Ministry of Labor adequately enforces the labor laws in state-owned enterprises, enforcement in the private sector, especially in family-owned enterprises, is lax. Many of these children are abused by their employers and are overworked, and the restrictions in the Child Law have not improved conditions due to lax enforcement on the part of the Government (Bureau of Democracy, Human Rights, and Labor; U.S. Department of State 2000).

Hence, the question arises whether Egypt's adherence to core labor standards could make it easier to utilize its comparative advantage. In other words, does imposing standards, especially those related to child labor as they are the most evident, deprive Egypt from fully utilizing its comparative advantage by lessening the market access of its products in its major trading partners?

3 Empirical Analysis of the Textiles and Ready-Made Garments Industry

The textiles and ready-made garments industry was chosen for further analysis as it is a sector, likely to be affected by social standards. According to the data set of the Federation of the Egyptian Industries, there are more than 3000 firms in this sector. In addition, there are many firms that

are not registered by the Federation⁵. Out of this data base, a small sample of 83 firms was surveyed in 2004. It cannot be considered as a representative sample but it gives a first impression about the situation related to child labor in the textiles and ready-made garment sector in Egypt.

Out of the 83 firms 81 were private whereas two were public firms. The sample was geographically distributed among the following five governorates: Greater Cairo consisting of Cairo, Kayobia and Giza (65 firms), Mahalla Kobra (9), and Alexandria (9). This geographical distribution reflects the nature of the industry which is rather characterized by clusters concentrated in the three aforementioned governorates. All surveyed firms focused on the export business. 49 companies (66%) export more than 50% of their output - in terms of value and volume; only 10 companies (11%) export less than 10% of their output.



Source: Own survey.

Fig. 1. Distribution of firms according to their use of child labor

The phenomenon of child labor was evident in 13 firms or 16% of the sample (see Figure 1). Five of these 13 firms (6%) have 10 to 20 child laborers below the age of 16; the other 8 firms have less than 10 child laborers. It can be further observed that relatively more girls than boys are employed as child laborers. Child laborers had been employed more often on a temporary basis rather than on a permanent one – there was only one company with 12 permanent child laborers.

⁵ According to an interview held with the managing director of the Industrial Chamber of Textiles and Ready Made Garments.

It has been also found from the sample that the firms with child labor are all private sector companies. The two public firms do not employ any child laborers. It is also interesting to note that most of the companies with child labor are companies that do not have foreign affiliation; only one subsidiary of a multinational company (out of nine) and one joint venture company (out of six) reported that they were employing child laborers, but both of them only on a temporary basis. The firms with child labor are also mainly small-scale firms as can be seen from the following Table 2.

Table 2. Occurrence of child labor by size of company

Number of workers	Number of firms	In %	Number of firms with child labor
Up to 100	28	33.7	9
100 to 499	27	32.5	4
500 to 1499	20	24.1	0
1500 – 4999	5	6.0	0
More than 5000	3	3,6	0

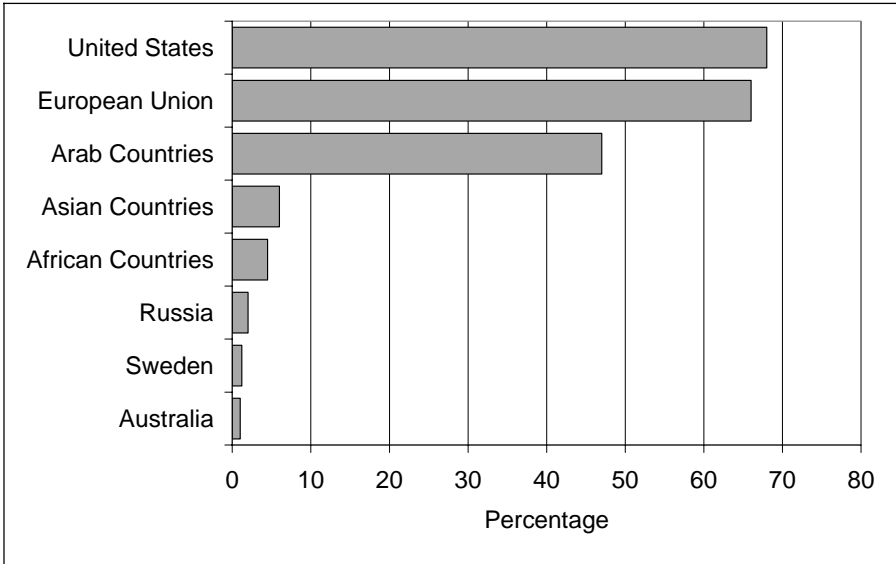
Source: Own survey.

Child laborers were found in six companies with export shares of more than 50%; three companies with child labor had an export share of less than 10%. However, the export-oriented companies are all small-scale companies, and may not export directly but rather be subcontracted by larger firms.

These results are contrary to the expectation that exporting firms do not hire child laborers. This expectation came in contrast to what we assumed that the level of awareness of labor standards in general and child labor prohibition in specific is rather a common aspect of all exporting firms in the textiles and ready-made garments industry. However, the first evident issue that we arrived at is that the level of awareness is rather low among exporters.

3.1 Destination of Exports

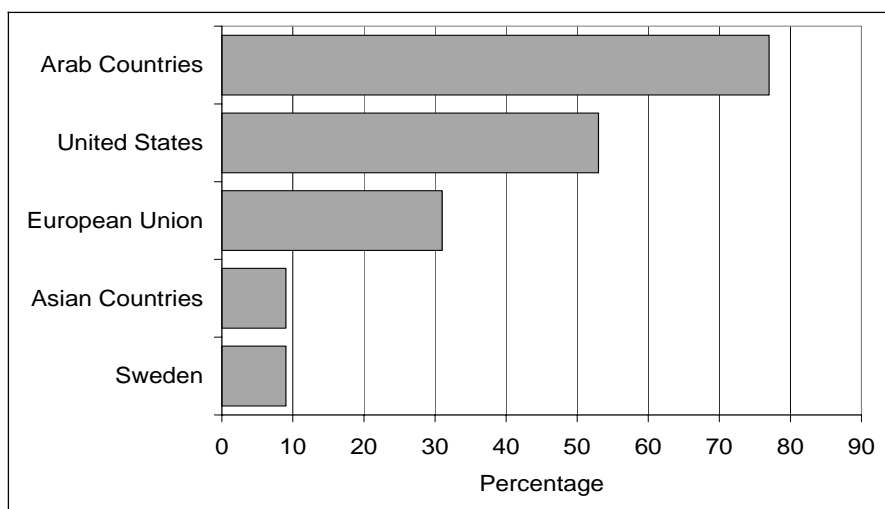
The destinations of exports were mainly the United States and the European Union as shown in Figure 2. However, the exports of firms that hire child labor were mainly directed to Arab countries as shown in Figure 3. This implies that there is a certain level of restrictive measures and a certain level of awareness among exporters on the countries that are less rigid regarding exports that include child labor.



Source: Own survey

Fig. 2. Distribution of firms according to the destination of exports

The main issue that we deduce from this section is that child labor is a phenomenon that exists in the textiles and ready-made garments industry with a relatively high share in the sample (16%). The phenomenon is not correlated with the destination of exports where all destinations receive exports that embody child labor; however, the non Western destinations seem to receive the lion’s share. Finally, and contrary to our expectations, a large proportion of firms with child labor exports more than 50% of their output. This implies that child labor is not an impediment to export as usually mentioned in the literature, and it indicates that the level of awareness among Egyptian exporters regarding this issue is relatively low. One possible explanation of the fact that child labor is not an impediment to export is that some sort of export diversification takes place in the exporting firms; this suggests that firms diversify by additionally exporting to countries with lower standards.



Source: Own survey

Fig. 3. Distribution of firms with child labor according to their export countries

3.2 Awareness about Labor Standards Including Child Labor

The case study also indicates that the level of awareness among Egyptian exporters regarding core labor standards in general and child labor in specific is relatively low. As can be seen from Table 3, many firms hiring child laborers were not aware of the need to comply with labor standards. This is also true for about 50% of the firms without child labor. Table 4 shows the awareness of firms with child labor about individual selected standards. As can be seen, none of the firms declared that they were aware that it was prohibited, whereas they emphasized that they were aware of other core labor standards of ILO, mainly the issues of discrimination and the right to organize and collective bargaining.

Table 3. Are you aware of the need to comply with labor standards?

	Firms with child labor		Firms without child labor	
	Frequency	%	Frequency	%
Aware	4	30.8	34	48.6
Not aware	9	69.2	36	51.4
Total	13	100	70	100

Source: Own survey

Table 4. Degree of awareness of core labor standards in the firms with child labor

	Know		Don't know	
	No.	%	No.	%
Core labor standards	0	0	13	100
Prohibition of child labor				
Right to Organize and Collective Bargaining	11	85	2	15
Freedom of Association and Protection of the Right to Organize	5	38	8	62
Minimum Age	8	62	5	38
Discrimination (Employment and Occupation)	12	92	1	8
Equal Remuneration	8	62	5	38

Source: Own survey

On the other hand, we find that most firms hiring child laborers believed that imposing labor standards is important to protect the welfare of workers and enhance the market access of their products to the foreign markets. It is interesting to point out that the social objectives dominated the thinking of such firms where they believed that protecting welfare of workers play a predominant role in this regard. Furthermore, 90 to 95% of the firms believe that complying with labor standards will enhance their market access to developed countries and increase the consumer acceptance of imported products. Almost 70% even indicated that they find it important to ensure fair competition. On the other hand, the firms were also asked about the additional costs due to complying with labor standards in general. More than half of the firms estimated the costs of complying with labor standards to be up to 5%. However, many firms also assumed the additional costs to be much higher (Table 5).

Table 5. Additional costs that will or did occur in case of complying with labor standards

Additional cost in percent	No. of firms	% of firms
Up to 5%	47	56
5-10%	23	27
10-15%	6	7
15-20%	3	4
More than 20%	1	1

Source: Own survey

3.3 Child Labor and Schooling

The firms with child laborers were also asked about the percentage of children going to school. Six of them indicated that their child laborers do not go to school, two answered that 10 to 15% of their children go to school, while another five said that 50 up to 80% of their children attend school. Those firms with a higher percentage of school attendance also tend to have more child laborers (10 – 20). This might be explained by the fact that each child works fewer hours because of schooling. We also checked whether firms with an export share of more than 50% and exclusively exporting to the West have a higher percentage of temporary child workers compared to firms with a lower export share and not exclusively exporting to the West. We find that the percentage of temporary workers is almost identical across both types of firms. In addition, five firms indicated that they offer special incentives like free books, bonuses, or even a pay rise to encourage them to go to school. Of the 13 firms, five also said that adults can replace children without adding to the production costs, while eight indicated that additional costs would occur.

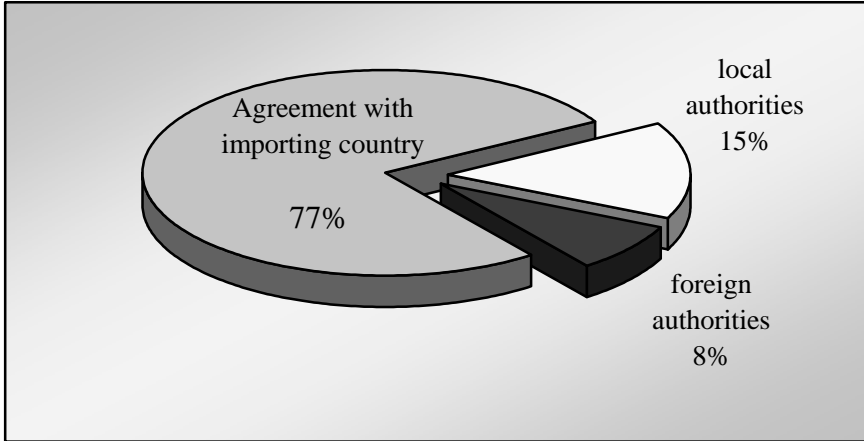
3.4 Motivation for Hiring Children

Being asked about the reasons of hiring child laborers, next to ‘lower wages’, the firms named reasons like ‘more skilled’, ‘preparing well trained skillful workers for future work’, ‘developing their skills’, and ‘their financial need’ or ‘higher learning curve in addition to giving them a better life’.

3.5 Enforcement of Labor Standards

The reason for complying with the prohibition of child labor was mainly based on mutual agreement with the importing country. The role of inspection and monitoring bodies from both local and foreign authorities was considered as being limited (see Figure 4). However, being asked about who should monitor and label labor standards in their field of business in case an agency would be established, about 70% of the firms said that it should be a domestic authority, 22% favored a foreign authority and 7% a joint authority. The major reason for favoring a domestic authority was that they are more aware about the local conditions and that the foreign governments should be prevented from interfering in domestic concerns. On the other hand, the corruption of the domestic system, and the efficiency, commitment and skills were named as reasons for favoring

a foreign authority. Almost 80% of the firms said that on-site monitoring by an agency would be needed, while 20% did not like the idea of on-site monitoring.



Source: Own survey

Fig. 4. Distribution of firms according to the reason of following a specific requirement in production

Being asked about the role of trade unions, 20 firms answered that they had workers who are members in trade union, and 22 firms (26%) believed that trade unions are able to impose their demands on the entrepreneurs.

As regards measures which can help to decrease child labor, the opinion was divided. While 12 firms said that strict sanctions would help, 17 suggested the establishment of schools and education centers. Another 9 firms asked for subsidies for educating children and 7 generally indicated that the alleviation of the standard of living would help. Interesting results on child labor enforcement are also derived from the following Table 6 which shows that fines and export stops for non complying firms are considered as the most effective ways of reducing child labor. This opinion is shared by 70 to 80% of the firms. Public awareness raising, legislation and laws, and setting a minimum age are, however, seen as no effective measures in reducing child labor.

Table 6. Attitudes on how to reduce child labor

Rank these ways to stop child labor	Not effective / not effective at all	Limited effectiveness	Effective / very effective
Legislation / laws	33	14	36
Setting minimum age	21	26	36
Imposing fines	8	7	56
Export stop for non complying firms	8	7	68
Public awareness raising	46	14	23

Source: Own survey.

4 The Role of Labeling in Enhancing Egyptian Exports

Closely related is the issue of social labeling as it is praised in many developed countries as a very attractive instrument to raise labor standards in developing countries. Social labels provide information via product labels on whether acceptable labor standards were applied in the production process, including the sensitive question of whether child laborers were employed or not.

The origins of social labeling can be traced back to the White Label initiated by a US labor union already in 1899, declaring that clothing had been produced without women and child laborers. Nowadays, social criteria like 'no child labor', freedom of association, wage levels, working hours etc. have been developed for labels especially in the carpet market, the footwear and sports industry but also in the agricultural sector and the textile industry. The labels are known under names like Rugmark, Kaleen, Step, Pro-Child, Care & Fair or Reebok (see Appendix 3.).

In the surveyed textiles and ready-made garments industry in Egypt, labels indicating that no child labor has been involved in the production process are not known to the entrepreneurs. This refers to their own produced products as well as to the inputs they use in their production process. However, two companies state that they have received a certificate that says that they are not using any child laborers. They are being monitored regularly, one of them once and the other one four times a year. For one enterprise, a contract with the importer even specifies that no child labor is allowed in production. 41 companies or 55% indicate that inspections of their company took place to control the use of child laborers.

In general, the attitude towards labeling is divided. Out of the total 83 enterprises, 13 or 20% apply positive attributes to labeling. However, 46

enterprises which is around 66%, do not consider labeling a positive thing, and 21 or 30% do not know. 38 or 64% of the companies do not find it important to receive a certificate saying that they use no child laborers. Four companies (6%) find it too costly, while two companies state that such a certificate is a precondition for entering other certification schemes like ISO (Table 7). Most entrepreneurs believe that the awareness regarding labor standards can be enhanced through formal training conducted by domestic authorities, or seminars and workshops, and publications.

Table 7. Reasons for not certifying

Why they don't have this certificate	Frequency	Percent
Not important	46	65.7
Don't know	21	30
Costly	4	5.7
It's a condition/requirement for other certificates (e.g. ISO)	2	2.9

Source: Own survey.

Interestingly, 43 entrepreneurs believe that child labor can be abolished by increased market access. Another 24 indicate that financial aid, reduced taxes or subsidization of raw materials is needed to overcome the cost of abolishing child labor, while 9 entrepreneurs state that no incentives are needed because it is obligatory to abolish child labor, and two indicate that child labor should not be stopped as work helps and protects the children.

Asking about the allocation of responsibilities for implementing labeling schemes, the majority of entrepreneurs (71%) clearly stated that domestic authorities should be responsible for its implementation. Only 22% of the entrepreneurs stated preference for a foreign authority and 7% for a joint authority in charge. The major reasons behind preferring a domestic authority refer to the fact that local entities have a higher awareness about local conditions. In addition, there is a general concern that foreign governments might interfere in domestic matters. Only a few entrepreneurs indicate the issue of corruption of local authorities, and one indicates that foreign authorities understand the export process better than the domestic authorities.

5 Econometric Analysis

The main purpose of this section is to identify which factors related to labor affect the export performance of a firm. More in detail, we want to find out whether labor standards in general and child labor in specific have an impact on the export performance of an enterprise. Export performance is captured as more than 50% of exports of a firm and exclusively to the West. We thus define the dependent variable as the probability of a firm to export more than 50% and exclusively to the West. The independent variables have been grouped into the four categories ‘awareness’, ‘compliance’, ‘enforcement’, in addition to ‘firms’ characteristics’:

$$Prob_i(\text{export performance}) = f(A_i, C_i, E, Z_i) + e_i \quad (1)$$

where:

A_i = awareness of labor standards in enterprise i ,

C_i = compliance with labor standards in enterprise i ,

E_i = enforcement of labor standards,

Z_i = firms’ characteristics,

e_i = random variable.

For the first three categories, a factor analysis has been conducted to reduce the number of variables by extracting the relevant factors⁶. The variables used are listed in the appendix. The relevant factors which were identified as being relevant are:

- Awareness Factor 1: Opening markets for exports (AwareFAC1)
- Awareness Factor 2: Fairness and awareness (AwareFAC2)
- Awareness Factor 3: Competitiveness through standards (AwareFAC3)

⁶ For the factor analyses, the test of sphericity with its “measure of sampling adequacy (MSA)” shows to what extent the variables belong together and thus, indicates whether the factor analysis is useful or not. The MSA criterion allows an assessment of the correlation matrix as a whole and also of individual variables. In our calculations, the general MSAs reached values between 0.6 and 0.7 which is assessed as being mediocre; however, the values partly rose to close to 0.7. MSAs > 0.7 are considered as ‘middling’. MSAs of individual variables can be assessed from the anti-image matrices (Annex); all variables with MSAs < 0.5 were successively excluded from the calculations. The remaining ones even had MSAs of > 0.8 and > 0.9 which is considered as ‘meritorious’ and ‘marvelous’, respectively. For extracting the factors, the Kaiser-criterion was used which means that only factors with eigenvalues of more than 1 are selected.

- Compliance Factor 1: Compliance with selected labor standards (ComplyFAC1)
- Compliance Factor 2: paid vacation and minimum age (ComplyFAC2)
- Enforcement Factor 1: market access & fair competition (EnforceFAC1)
- Enforcement Factor 2: fines, costs & mutual agreement (EnforceFAC2)
- Enforcement Factor 3: control of child labor (EnforceFAC3)
- Enforcement Factor 4: controls of labor standards (EnforceFAC4)

Thereafter, the factors along with a number of firms' characteristics were used as inputs in the logistic regression equation. The firms' characteristics are the following variables:

- Since when has the firm been in business? (firmAGE)
- How many workers do you have? (NoofWorkers)
- Is the firm specialized in its assortment? (Specialized)
- Do you have a foreign affiliation? (foreignAffilia)
- How many export destinations do you have? (Nodestinations)

Table 8. Logistic regression results for the probability of good export performance

	B	S.E.	Wald	Df	Sig.	Exp(B)
firmAGE	-,018	,032	,307	1	,580	,982
NoofWorkers	,001	,001	4,655	1	,031**	1,001
Specialized	-3,533	2,510	1,981	1	,159	,029
ForeignAffilia	-2,389	2,125	1,264	1	,261	,092
NOdestinations	-3,794	1,379	7,570	1	,006***	,023
EnforceFAC1	1,974	1,124	3,081	1	,079*	7,197
EnforceFAC2	-2,656	1,141	5,416	1	,020**	,070
EnforceFAC3	,031	,670	,002	1	,963	1,032
EnforceFAC4	1,820	1,148	2,513	1	,113	6,171
AwareFAC1	,028	,664	,002	1	,967	1,028
AwareFAC2	-,598	,683	,768	1	,381	,550
AwareFAC3	2,010	1,241	2,623	1	,105	7,460
ComplyFAC1	,386	1,594	,059	1	,809	1,472
ComplyFAC2	-1,490	1,264	1,390	1	,238	,225
Constant	43,686	64,491	,459	1	,498	9,39E+18

Selected cases: 59; -2 Log likelihood: 30,813; Cox & Snell R Square: ,557; Nagelkerke R Square: ,756

*** Significance level 1% ** Significance level 5%; * Significance level 10%

Source: Own calculations.

The results of the logistic regression⁷ (Table 8) show that the ‘number of workers’, ‘number of destinations’, as well as the first two enforcement factors ‘market access and fair competition’ and ‘fines, costs and mutual agreements’ have significant partial effects. This means that the larger the enterprise in terms of ‘number of workers’, the more likely it is a good export performer identified by a high share of exports and exclusively to the West. This result also supports the descriptive statistics (Table 3) showing that the larger enterprises are less likely to employ children as workers. The significant variable ‘number of destinations’ has a negative impact on the probability because the more markets (Western and non Western) the firm exports to the more likely it has to comply with different types of standards which negatively affect its export performance. Hence, geographical concentration would enhance the export performance of the firm.

The results also support the hypothesis that firms that are more aware of market access and fair competition considerations are likely to export more than 50% and exclusively to the West. The second enforcement factor “fines, compliance costs and mutual agreements” has a significant negative effect on the probability of having good export performance. This can be explained by the high loading of the compliance cost variable which indicates that the higher the costs are or are expected to be, the less likely the firm is to perform well in terms of exporting more than 50% exclusively to the West. Also the fourth enforcement factor has a positive effect on the probability, though not significant. It indicates that domestic and foreign controls improve the enforcement of labor standards and thus lead to better export performance results. On the other hand, the actual control of a firm (enforcement factor 3) for child labor hardly has any effect on the performance.

In summary, the results show that several variables related to labor standards and child labor have an effect on the probability of a firm to perform well in the export business. In general, it has been found that variables which ensure the enforcement of labor standards have a higher explanatory power for the probability of better export performance than compliance and awareness variables. The aspect of child labor seems to explain the dependent variable to a much lower extent than labor standards in general. Thus, the two factors related directly to child labor standards (ComplyFAC1 und EnforceFAC3) show a highly insignificant effect on

⁷ The level of predictive power by the regression is quite high. The estimated relationship for the probability to perform well correctly predicts 88% of the observations. Also the R squares indicate that the dependent variable is well explained by the independent variables.

the export performance. For example whether a firm employs child laborers or not has significant effect on whether the firm has good export performance and exclusively to the West.

6 Conclusion and Policy Implications

In general, the study shows that some variables related to labor standards and child labor have an effect on the probability of a firm to perform well in the export business. It has been found that variables which ensure the enforcement of labor standards have a higher explanatory power for the probability of good export performance than compliance and awareness variables. This is along the lines of what the descriptive results show; thus, fines and export stops for non complying firms are considered as the most effective ways for reducing child labor, while public awareness raising campaigns, legislation and laws, and setting a minimum age are seen as rather ineffective measures.

The aspect of child labor seems to explain the dependent variable to a much lower extent than labor standards in general. The two factors which include specifically child labor aspects, namely the enforcement factor 3 (control of child labor) and the compliance factor 1 (selected labor standards), are both highly insignificant. Thus, for example whether a firm employs child laborers or not has not a significant effect on whether the firm exports exclusively to the West. This result is supported by the descriptive analysis showing that child labor is a phenomenon that exists in the textiles and ready-made garments industry with a relatively high share in the sample (16%). All destinations receive exports that embody child labor; however, the non Western destinations seem to receive the lion's share. Moreover, it has been found that a large proportion of firms with child labor export more than 50% of their output, and firms with child labor are mainly small-scale firms.

Econometric analysis shows a strong positive relationship between higher standards and the likelihood of enhanced export performance to the West. However, for those firms with a high volume of exports to Arab countries and for smaller firms (both exporting to the West or Arab countries), the effect of standards might lead to the need of more export diversification within a specific region either to the West or to any other region to build on the economies of scale resulting from harmonized or similar standards.

The results of the case study on child labor in textile and garment enterprises in Egypt revealed that firms with child labor are mainly small-

scale firms. Even companies with export shares of more than 50% employ child laborers; however, these exporting firms target their exports mainly to Arab countries, not to the EU or the US. It has been also found that the awareness about the prohibition of employing child laborers is generally relatively low.

It has been also found that labels indicating that no child labor has been involved in the production process are not known to the entrepreneurs in the textiles and ready-made garments industry in Egypt. In general, the attitude towards labeling is divided, however, with the majority of enterprises applying negative attributes to labeling. Interestingly, half of the entrepreneurs believe that child labor can be abolished by increased market access. Nevertheless, the labeling proposal suggested in the study and used intensively by some countries as Bangladesh and India seems to be a reasonable solution. As argued by Freeman (1996) it gives the consumer purchasing a good to freely decide whether he weighs the normal cost of hiring child labor higher or lower than his moral values.

Other policy implications that can help policy makers to overcome the negative impacts of social regulations, if any, is undertaking mutual recognition agreements (MRA)⁸ as the study showed that they adhere to labor standards only when the importer requires. MRAs in the field of labor standards can overcome the negative effect of different standards prevailing in Egypt and its major trading partners (despite the fact that evidence has shown that it has not been successful in the EU trials with its trading partners, see Stephenson 1997), taking in consideration the possible scope for harmonization due to the limitations arising from different economic circumstances, and developmental differences (as argued by Anderson 1995).

⁸ In MRAs, manufacturers are able to obtain required national certificates at the location of production, rather than pay the higher costs of offshore certification. The MRAs are in general applied to technical standards and regulations, and quality management systems. Their application in the field of compliance with labor standards has not been mentioned in the literature according to the knowledge of the authors. Nevertheless, there is nothing that prevents the adoption of such systems in the field of labor standards.

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Appendix: List of Variables Used for the Factor Analysis

1) Awareness of Labor Standards in Enterprise i:

- Do you agree that these labor standards are very important to increase consumer acceptance of imported products? (1=very important; 0=otherwise)
- Do you agree that these labor standards are important to enable access to developed countries' markets? (1= important; 0=otherwise)
- Do you think that labor standards are very important to protect the welfare of your workers? (1=very important; 0=otherwise)
- Do you agree that these labor standards are important to ensure fair competition? (1=very important; 0=otherwise)
- Do you think that public awareness raising will stop child labor? (1=yes; 0=otherwise)
- Do you think labor standards can affect the competitiveness of your exports positively? (1=yes, 2=otherwise)
- Are you aware of the need to comply with labor standards in some countries? (1=yes; 0=otherwise)

2) Compliance with Labor Standards in Enterprise i:

It is expected that the export performance of an enterprise will increase, the better the enterprise complies with labor standards.

- Do you employ children below 16? (1=yes; 2=no)
- Is the worker in your firm eligible for maternity leave? (1=yes, 2=no)
- Compliance with "prohibition of child labor" (1=yes, 2=no)
- Compliance with freedom of association and protection of the right to organize (1=yes, 2=no)
- Compliance with minimum age (1=yes, 2=no)
- Do you think that increased market access will help abolishing child labor or will make you comply with labor standards? (1=yes; 0=otherwise)
- Is the worker in your firm eligible for paid vacation? (1=yes, 2=no)

3) Enforcement of Labor Standards from Outside the Enterprise:

We expect that the probability of an enterprise to export to the West with an export share of more than 50% will increase with the level of enforcement of labor standards. An exception is the variable related to the costs of standards for which we expect a negative correlation.

- In your opinion, what makes you comply with core labor standards? Is it an incentive in terms of better market access? (1=yes; 0=otherwise)
- Is it because of competition with other countries? (1=yes; 0=otherwise)
- In your opinion, what makes you comply with core labor standards? Is it because of inspections and monitoring by a domestic authority? (1=yes; 0=otherwise)
- Do you agree that these labor standards are very important to ensure fair competition? (1=yes; 0=otherwise)
- Are the requirements you follow in production based on mutual agreement between you and your major importing country? (1=yes; 0=otherwise)
- What costs do you think will or did occur as a percentage of total costs in the case of complying with these standards? (1=more than 5%; 0=otherwise)
- Do you think that imposing fines will stop child labor? (1=effective to very effective; 0=otherwise)
- Have there been any inspections in your company to control the use of child laborers by foreign or domestic authorities? (1=yes; 0=otherwise)
- Do you think that setting a minimum age for working will stop child labor? (1=effective to very effective; 0=otherwise)
- Are the requirements you follow in production imposed on you by local and / or foreign authorities? (1=yes; 0=otherwise)