Determinants of Child Labor in the Export and Non-Export Sectors of Bangladesh

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ABSTRACT. Trade sanctions imposed by industrialized countries on products made by children in developing countries are motivated by the assumptions that children work in export industries and that such work harms them. We use binary logistic regression techniques to analyze the determinants of children's work in the export and non-export sectors of Bangladesh. Looking at all children, we find that the factors determining whether a child works in the export sector are being older, being a girl, living in an urban area, and having a less educated father. (F16, J13, J80, O10, O24)

I. Introduction

Trade sanctions imposed by industrialized countries on products made by children in developing countries are motivated by the presumed negative effects of child labor on the well being of working children. Policy actions such as sanctions presuppose that children work in export industries and that such work harms them in one way or another. But is this the case? Research finds that boycotting imports of goods produced by children may actually worsen the welfare and well-being of those children and their families, first by lowering their living standards and, second, by pushing children into dangerous work such as begging and prostitution. (See Soares, 2010, Neumayer and De Soysa, 2005, Wasserman, 2000, Bissel and Sobhan, 1996.) Child labor, in general, is undesirable; but in many poor countries, children must work. In this research, we determine which children would be affected by trade sanctions. What are the characteristics of children who work in the export sector? And what motivates families to send their children to jobs in this sector? Identifying the determinants of child labor in the export and non-export sectors is useful in understanding the consequences of

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international trade policies such as sanctions on imports of products made by children.

We focus our research on child labor in Bangladesh because of its significant exports to the United States. According to the website of the Bangladesh Government Export Promotion Bureau (2008), Bangladesh sends about 28 percent of its exports to the United States. The U.S. buys more of Bangladesh's exports than any other country. From the perspective of Bangladesh, it is important to consider the effects of trade sanctions on the well-being of child laborers.

Using data from the Bangladesh Bureau of Statistics *National Child Labour Survey 2002-2003*, we first examine the distribution of children performing market work in the export and non-export sectors.[1] Bangladesh's export sector, according to our definition and measurement, encompasses the woven garments and knitwear industries. We use binary logistic regression techniques to analyze the determinants of children's work in the export sector. Looking at all children, we find that the factors determining a child's working in the export sector are being older, being a girl, living in an urban area, and having a less educated father. Thus, trade sanctions would affect girls' earnings potential more than boys' earnings potential.

II. Background and Review of the Literature

Research on child labor seeks to understand who child workers are. Why do they work? Who employs them? Among the many studies investigating the reasons for child labor (Basu and Van, 1998; Basu, 1999; Amin, Quayes, and Rives, 2004, Ray, 2000), there is a general consensus that family poverty is largely responsible for child labor. Edmonds and Pavcnik (2005a) find that most working children are employed by their parents. That is, most children do not work in manufacturing establishments or other forms of wage employment. Specifically, Edmonds and Pavcnik (2005a, p. 202) report that "Less than 3 percent of children ages 5-14 work outside of their household for pay, and this work for pay is actually more common in rural settings than in urban centers where manufacturing is generally located." They also report that in urban Bangladesh in 2002, only 1.2 percent of children ages 5-14 worked as paid employees.

Much of the policy discussion of child labor in developing countries

is directed toward export industries. Edmonds and Pavcnik (2005a) contend that efforts to eliminate child labor by banning imports from developing countries might backfire. More specifically, they argue that the effects of higher family income through exports may be sufficient for families *not* to send their children into the workforce. Furthermore, if trade sanctions reduce income, some children might seek employment in non-export industries which may be more dangerous and lower paying. Bissell and Sobhan (1996) discuss these possible effects for Bangladesh. Measures such as the Child Labor Deterrence Act (the Harkin Bill) which would have banned imports of products which children help to produce, may be well meaning[2] (Harkin 1999) but may not be in the best interests of those they are attempting to help (Bissell and Sobhan 1996; Rahman, Khanam, and Absar 1999).[3]

Some research shows that trade sanctions on child labor are ineffective. Using cross country data, Edmonds and Pavcnik (2006) find that countries that trade more have less child labor. In other research, Edmonds and Pavcnik (2005b) report that child labor declined in Vietnam during an episode of liberalization of rice markets. Using a theoretical approach, Grossmann and Michaelis (2007) conclude that uniform tariffs levied by developed countries on imports of products produced by child labor in developing countries fail to reduce child labor in the exporting countries.

Our research contributes to the literature by focusing on which children participate in the export sector and how the determinants of their participation differ from children working in the non-export sector. We evaluate children in both urban and rural areas of Bangladesh. Our research results may help policy makers determine where to focus trade sanctions and how to improve the lives and employment conditions of working children.

III. Data, Variables, and Model

A. DATA

In order to investigate the determinants of child labor in export industries (defined below), we use data from the *2002-03 National Child Labour Survey* (NCLS) of Bangladesh, carried out by the Bangladesh Bureau of Statistics. The objective of the survey was to collect comprehensive data

on working children ages 5 to 17. The survey contains information on children's characteristics including whether they work, where they work (occupation and industry), age, and educational background. Also available is information on parents' earnings, parents' educational background, and community characteristics. The NCLS was conducted using an Integrated Multipurpose Sample design (IMPS). The IMPS design was constructed on the basis of the Population Census of Bangladesh conducted in 2001. It consisted of 1,000 Primary Sampling Units (PSU) of which 642 were selected from rural areas, 80 from statistical metropolitan areas, and 278 from other urban areas or municipalities. Based on survey objectives, 40 households were selected at random from each and every selected PSU. This procedure produced 40,000 sample households. The NCLS covered the population of children aged 5 through 17 years old living in the 40,000 sample households. It excluded children living on the street and in institutions such as prisons, orphanages, and welfare centers.

We limit our analysis to children ages 5 through 14. This procedure produces 45,694 children for our study, of whom 6,002 performed market work.[4] Of those children performing market work, about 59 percent worked in agriculture, 12 percent in retail trade, 4 percent in garments and knitwear, 3 percent in transport, 2 percent in furniture manufacturing, 2 percent in construction, 2 percent in the hotel and restaurant industry, 2 percent in personal services, and 14 percent in other industries. We analyze the work behavior of all of these children using binary logistic regression techniques by focusing on two groups of children: (1) those engaged in market work in export industries and (2) those engaged in market work in non-export industries.

B. MODEL

Theoretical framework. The theoretical background for this research is based on a household production model introduced by Becker (1965). In this model households maximize a joint utility function subject to time and budget constraints. This model was further developed by Rosenzweig and Evenson (1977) to capture the multiple activities of children in developing countries. Goldin (1979) also noted that the model, as developed by Becker, could not be applied to households in nineteenth century America, because the household composition then was different from what it is today in the sense that most families were not

nuclear. In recent years Levison and Moe (1998), Levison, Moe, and Knaul (2001), Amin, Quayes, and Rives (2006b), and Khanam (2008) have developed empirical models based on the models of Becker (1965), Rosenzweig and Evenson (1977), and Goldin (1979). The recent empirical studies use a general utility-maximizing framework to model the choices regarding children's work as a reduced-form function of individual children's characteristics (age, education and gender) as well as household, parental and community characteristics (parents' education, family income, size of the household, area of residence).

Following the ideas introduced by Becker (1965) and the models developed by Rosenzweig and Evenson (1977) and Goldin (1979), we assume that each family maximizes the following utility function:[5]

$$U = U(Z, L_c), \tag{1}$$

where Z= household produced goods, L_c = leisure of the children. Z, in turn, is produced by G (purchased goods), H_m, mother's time working at home, and H_c, children's time working at home. Thus,

$$Z = f(G, H_m, H_c). \tag{2}$$

The budget constraint is:

$$G = M_c W_c + M_f W_f + V \tag{3}$$

where M_c is market time of the children, M_f is market time of the father, W_c is the wage of the children, W_f is the wage of the father, and V is nonlabor income to the family. The time constraint is:

$$T = M_i + L_i + H_i \tag{4}$$

where i stands for father, mother, or children. The maximization solution of the utility function yields a reduced-form household demand of ith child's activity (Y_i) and can be expressed as:

$$Y_i = f(\mathbf{X_i}, \mathbf{X_h}, \mathbf{Xc}, \mathbf{v_i}) \tag{5}$$

where $\mathbf{X}_i$, is a vector of child's characteristics such as the child's age, gender, education; $\mathbf{X}_h$ is a vector of household characteristics such as

family income, family size, parents' education; $\mathbf{X}_c$ is a vector of community characteristics such as area of residence; and $\mathbf{v}_i$ is a vector of any individual, household or community specific unobservable characteristic that may affect the child's activity. Thus, the above reduced-form specification of the household utility-maximization theory contains only exogenous explanatory variables.

Econometric specification. We apply logistic regression techniques to equation (5). We determine how the independent variables influence the probability that a child will work in the export sector. Since the dependent variable is binary, ordinary least squares estimates are not ideal. A binary logit model is used instead to estimate working in the export sector. We report marginal effects (partial derivatives) of each independent variable as well as estimated coefficients and their significance levels. The marginal effect of the probability of a particular independent variable is calculated as $\delta P(y=1)/ \delta x = \beta P(1-P)$, where X is the independent variable, β is the logit estimate, and P is the probability that y=1, and (1-P) represents the probability that y=0 zero (Liao, 1994; Maddala, 1988). Marginal effects are evaluated at the mean. Some children in our sample are from the same households and, thus, do not constitute independent observations. For this reason, the standard errors of the coefficients have been corrected for clustering.

The binary logistic regression model estimating the probability of working in the export sector is as follows:

$$P(EXPORT) = b_0 + b_1 AGE + b_2 BOY + b_3 EDU + b_4 LNFMINC + b_5 ADULTS + b_6 CHILDREN + b_7 FATHEDU + b_8 MOTHEDU + b_9 URBAN + error \quad (6)$$

Dependent variable. Our dependent variable indicates whether the child works in the export sector. The variable EXPORT equals 1 if the child is working in the export sector and 0 if working in the non-export sector. We identify nineteen 4-digit industries as export industries; these nineteen industries comprise the export sector. (A detailed list of these industries is found in Appendix A.) All nineteen industries fall into two categories: woven garments and knitwear. The woven garments and knitwear industries comprised, respectively, 49.8 percent and 25.3 percent of Bangladesh's total exports in 2002-2003 (Bangladesh Government, Export Promotion Bureau, 2008). No other industry categories comprised more than five percent of total exports that year.

It is interesting to observe the evolution of woven garments and knitwear production as an important export industry. In 1982-83, only 1.1 percent of Bangladesh's exports were woven garments; no knitwear was exported. In that era, jute was Bangladesh's primary export. By 1992-93, woven garments were 52 percent of total exports and knitwear was 9 percent. A decade later the total of the two industries reached 75 percent of total exports from Bangladesh. (See Bangladesh Bureau of Statistics, *Statistical Yearbook of Bangladesh*, various issues.)

We find from calculations using our data that, in the export sector, most rural boys (55 percent of them) work in handloom textile industries, followed by cotton textiles (12 percent) and wearing apparel (12 percent). Rural girls are employed in handloom textiles (36 percent of rural girls), followed by the manufacture of carpets, rugs, and mats (16 percent), the manufacture of cordage, twine, and netting (16 percent), and wearing apparel (11 percent). Twenty-seven percent of urban boys are employed in handloom textiles, followed closely by employment in the wearing apparel industry (25 percent). Urban boys also work in cotton textile manufacturing (17 percent) and jute textile industries (10 percent). Over half of urban girls (57 percent) work in the wearing apparel industry. Urban girls also work in handloom textile manufacturing (20 percent) and cotton textile industries (14 percent).

We omit from our study children who are not engaged in market work, although we recognize that there is much child labor in developing countries in addition to market work (Levison and Moe, 1998; Amin, Quayes, and Rives 2006a; Khanam, 2008). For example, a child may not be performing market work but could be doing household chores.

Independent variables. The independent variables in our models fall into three categories.[6] The first category consists of the child's personal characteristics: age, gender, and education. AGE is the child's age in years; BOY equals 1 for a boy and 0 for a girl; and EDU is equal to 1 if the child has completed at least the first grade and 0 otherwise.

The second category includes independent variables related to a child's household characteristics. These characteristics include family structure, family income, and parents' education. There are five variables in this category. LNFMINC is the natural log of monthly family income excluding income earned by children. The variable ADULTS represents the number of adults (age 18 or older) in the household. CHILDREN is the number of children in the household. Our data source reports the education of the male household head and of the spouse of the male

household head. In most cases these are the fathers and mothers of the children so we denote them as FATHEDU and MOTHEDU. FATHEDU takes on a value of 1 if the father has more than a fifth grade education and is 0 otherwise. MOTHEDU is defined similarly.[7]

The third category, community characteristics, consists of just one variable, the child's geographic location. URBAN equals 1 for a child living in an urban area and 0 otherwise.

We expect b_1 to be positive if work in export industries is more physically difficult. The sign on b_2 is unpredictable. Since most export industries are located in urban areas, we expect b_9 to be positive. Signs on the remaining coefficients are not predictable in advance. We estimate the model separately for boys and girls and for rural and urban children.

IV. Results and Discussion

A. DESCRIPTIVE STATISTICS

Table 1 presents descriptive statistics (means and standard deviations) for the variables used; these are shown separately for children working in the export sector and for those working in the non-export sector. Only 3.6 percent of children doing market work are in the export sector. The average age of working children is between 12 to13 years and is slightly higher for children working in the export sector. We find that about 57 percent of children working in the export sector are boys, while 73 percent of those working in non-export industries are boys. A higher proportion of children who work in the export sector are from urban areas as compared to children who work in the non-export sector. All of these differences are statistically significant.

Among the remaining variables in Table 1, only two show statistically significant differences between the means of the two groups of working children. Children working in the export sector have fewer adults in their families than do children in the non-export sector. Also, a greater proportion of fathers of children working in the non-export sector have at least a fifth grade education. There is little difference, by sector, in educational levels among the working children with about 60 percent indicating at least one year of education. The natural log of non-child family income is about the same for children in the export and non-

export sectors as are the number of children in their families. Finally, the percentage of mothers with at least a fifth grade educational level is almost the same for the two sectors.

TABLE 1–Descriptive Statistics for Working Children by Sector[a]

Variable	Working in the Export Sector	Working in the Non-export Sector
AGE	12.717 (1.421)	12.335 (1.670)
BOY	0.566 (0.497)	0.728 (0.445)
EDU	0.580 (0.495)	0.608 (0.488)
LNFMINC	7.994 (1.002)	7.960 (0.774)
ADULTS	2.753 (1.038)	2.788 (1.174)
CHILDREN	3.333 (1.409)	3.459 (1.523)
FATHEDU	0.114 (0.319)	0.177 (0.381)
MOTHEDU	0.100 (0.301)	0.090 (0.286)
URBAN	0.502 (0.501)	0.268 (0.443)
N	219	5,783

[a]Means are reported with their standard deviations in parentheses.

B. REGRESSION RESULTS

Table 2 shows the results of a binary logistic regression where child labor in export industries (EXPORT = 1) is compared to child labor in non-export industries (EXPORT = 0); that is, non-export industry child labor is the comparison group. The column headed "All" shows the binary regression results for all children doing market work; the marginal effects are shown with logit coefficients in parentheses.

Since the coefficient of AGE is positive, being older increases the likelihood of export sector labor over non-export sector labor. This might indicate that the type of work done in the export sector requires an older and more experienced child. The marginal effect of age for all children is 0.005, indicating that each year of age adds one-half of one percent to the likelihood of working in the export sector. An important finding of our research is that the coefficient on BOY is negative, indicating that girls are more likely to work in the export sector. This is not surprising given the observation that many women and girls work in woven garment and knitwear industries, and these industries make up the export sector.

The coefficient of the variable URBAN is positive; living in an urban

area increases the likelihood that a working child will be in an export industry versus a non-export industry. This reflects the fact that a considerable number of textile and garment factories are located in or near urban areas.

TABLE 2–Marginal Effects and Logit Coefficients from Binary Logistic Regressions of Children Working in the Export Sector[a]

Variable	All	Boys	Girls	Urban	Rural
Intercept	(-5.242)***	(-7.113)***	(-3.391)**	(-8.206)***	(-4.751)***
AGE	0.005 (0.175)***	0.004 (0.149)**	0.009 (0.212)***	0.005 (0.109)*	0.005 (0.246)*
BOY	-0.025 (-0.735)***			-0.055 (-0.888)***	-0.014 (-0.588)***
EDU	-0.004 (-0.150)	-0.005 (-0.189)	-0.005 (-0.114)	-0.017 (-0.335)	-0.001 (-0.050)
LNFMINC	0.001 (0.035)	0.006 (0.243)	-0.012 (-0.290)	0.037 (0.731)***	-0.004 (-0.205)**
ADULTS	-0.001 (-0.034)	-0.000 (-0.018)	-0.002 (-0.055)	-0.005 (-0.102)	-0.001 (-0.038)
CHILDREN	-0.001 (-0.045)	-0.002 (-0.086)	0.000 (0.004)	-0.008 (-0.157)*	0.001 (0.034)
FATHEDU	-0.020 (-0.914)***	-0.019 (-1.023)***	-0.026 (-0.767)	-0.040 (-0.992)**	-0.015 (-0.935)**
MOTHEDU	0.019 (0.533)*	0.025 (0.761)*	0.005 (0.120)	-0.018 (-0.406)	0.049 (1.297)***
URBAN	0.038 (1.035)***	0.024 (0.817)***	0.079 (1.332)***		
Log Likelihood	-886.62	-542.61	-338.35	-379.10	-491.26
LR statstic	105.78***	41.70***	47.90***	56.32***	34.68***
Pseudo R^2	0.0568	0.0359	0.0719	0.0632	0.0354
N	6,002	4,332	1,670	1,658	4,344

[a]Logit coefficients are reported in parentheses; there are no marginal effects for the intercepts. Standard errors are adjusted for clustering.
***Significant at 0.01 level, **significant at 0.05 level, and *significant at 0.10 level.

Neither a child's education nor any of the family variables (LNFMINC, ADULTS, and CHILDREN) are statistically significant in

this model. Non-child family income is not a factor in distinguishing between the two categories of market work; children in poorer families are no more or less likely to be employed in export industries than in non-export industries. From earlier studies (Amin *et al.* 2004, Basu and Van 1998, Delap 2001), we know that poorer families are more likely to send their children to do market work. The results of this study show, however, that there is no distinction between whether such work is in the export sector or in the non-export sector. Moreover, neither one of our measures of family size influences whether a child will be employed in the export or non-export sector.

The negative sign on FATHEDU indicates that children of more educated fathers are less likely to work in the export sector. On the other hand, the incidence of children working in the export sector increases for mothers with more education. The results with respect to parents' educational levels raise questions about which sector is more favorable in terms of child income, working conditions, and safety. Work in the export sector may be riskier but higher paying. Mothers often take their children, especially girls, to work with them in the garment industry. These mothers' jobs may require more education than jobs as maids and household workers (see, for example, Amin *et al*. 2006b, Ehrenberg and Smith, 2009).

Table 2 also shows the binary regression results for the separate demographic groups of boys, girls, urban children, and rural children. Past research indicates that children's employment behavior differs, with respect to other variables, among these groups defined by gender and location. We see such differences in Table 2 which shows that boys are more likely to work in the export sector if they are older, from an urban area, have less educated fathers and more educated mothers. Earlier research (Amin *et al.* 2006b) shows that fathers and children are generally substitutes for one another in the labor market. Children of more educated fathers need not go to work in the higher paying export sector. On the other hand, mothers and children are found to be complements in the work force. Assuming that better educated mothers are more likely to work, their children will tend to go to work with them, often in the garment (export) industry. Table 2 shows that the likelihood of girls' employment in the export sector again increases with their age and when they live in an urban location. For girls, the marginal effect of living in an urban area is 0.079. This means that urban girls' likelihood of working in the export sector is 7.9 percentage points higher than that of rural girls.

For urban children, the sign on AGE is again positive for work in the

export sector, and girls are more likely to work in this sector than boys. Among urban children, those from higher income families are more likely to have export-sector jobs. A possible explanation is that export-sector jobs in urban areas might be "better" in terms of pay. From our calculations we find that children's earnings are higher in the export sector (509 Taka per month) than in the non-export sector (235 Taka per month). Higher income parents working in the export sector would have access to such jobs for their children, jobs that would be preferable to working on the street or in other people's homes. We also find that the probability of working in the export sector decreases as the number of children in a family increases. This may be because there is less need for working children, especially girls, to combine caring for siblings with work outside of the home. The sign on father's education is negative; urban children from families with less educated fathers are more likely to do export work.

Rural children are more likely to work in the export sector if they are older, female, from poorer families, have less educated fathers and more educated mothers. These results differ from those for urban children in several ways, most notably regarding the income of families. We know that rural families are poorer, on average, than urban families; the mean monthly household income, excluding the child's income, is 3,696 Taka in rural areas and 5,397 Taka in urban areas. Also, the jobs themselves may differ from urban to rural settings. In particular, the richer rural families may own farms and employ their children on the farm rather than have them work in textile jobs. This may explain the inverse relationship between family income and the incidence of work in the export sector.

A close look at the size of the marginal effects of the coefficients in Table 2 indicates that, of all the variables, being in an urban area for girls has the largest marginal effect. Thus, living in an urban area has the greatest economic effect for girls. It is also the most important factor in determining working in the export sector for boys and for all children (boys and girls combined).

C. DISCUSSION: IMPLICATIONS OF TRADE SANCTIONS FOR CHILDREN PERFORMING MARKET WORK

Using binary logit analysis to estimate the probability that a child will work in the export sector as opposed to the non-export sector, we find factors that affect a child's work choice differently for the two groups. Specifically, children are more likely to work in the export sector (as

compared to the non-export sector) if they are older, if they are girls, are from urban areas, and have fathers with a lower educational level (less than grade five) and mothers with at least a fifth grade education. The influence of father's and mother's educational levels on export-sector child labor disappears for girls. Family poverty, as measured by the log of non-child family income, influences urban children to work in the export sector and rural children to work in the non-export sector. Family size has a small negative effect on work in the export sector for urban children. Mother's education has a strong positive effect on choosing export employment for rural children.

Since a large proportion of girls work in the export sector, we examine what their employment alternatives might be if trade sanctions removed them from jobs in woven garments and knitwear industries. From our data, we calculate that urban girls are not concentrated in any particular non-export sector job. About 14 percent work in grain cultivation followed by about 6 percent who work as maids. But there are no other jobs for which urban girls represent even two percent of the total who work in non-export jobs. A majority (38 percent) of rural girls, however, work in growing cereal crops, followed by those who grow vegetables (18 percent) and those engaged in poultry farming (11 percent). Some of these jobs are safer, but they come with lower pay. A worse case scenario mentioned in the literature suggests that girls displaced from export sector jobs through trade sanctions may turn to prostitution, begging, or working as maids and servants (Bissell and Sobhan, 1996, Wasserman, 2000). Working in others' households presents its own opportunities for the sexual harassment and abuse of young girls, crimes which often go under reported. Trade sanctions, therefore, might hurt girls more than boys in the sense that girls might land jobs that would pay less or be more dangerous.

V. Conclusions

This study provides a preliminary assessment of child labor in the export and non-export sectors in Bangladesh, using the *2002-03 National Child Labour Survey*. Although child labor, in general, is undesirable, it does exist. The purpose of this study has been to determine which children would be affected by trade sanctions. We conclude that well meaning bans imposed by developed countries on products made by children in

developing countries would have a disproportional displacement effect on girls as compared to boys. Much research on international trade and child labor concludes that countries that are more open have less, not more, child labor. Thus "openess" is interpreted as being good for children and trade sanctions are "bad." We find that trade sanctions may also be "bad" insofar as they eliminate good jobs for children, in particular for girls, and force children into less desirable jobs.

We must bear in mind that sanctions by industrial countries on goods produced by child labor affect only a fraction of children doing market work and have no bearing on those children engaged in work in the informal sector of developing country. Thus, a more direct solution to the issue of child labor in general, and girls' work in particular, is to make sure that children work limited hours and that the workplace is not hazardous. Policies should support adequate financial benefits for children's work and create opportunities for them to attend school after work. With respect to girls in particular, it is very important that, if they must work to keep their families out of poverty, they earn their own money so that they are empowered financially, even when they are young.

Our research is limited, first, by the infrequency of publication of data on child labor. We used the most recent data on working children in Bangladesh, published in 2003. Prior to 2003, data were collected in 1996. It would be valuable to have more frequent data in order to track trends in child labor participation as well as employment responses to domestic and international trade and employment policies. A second limitation involves the fact that we do not know how many of the goods produced in the export sector are consumed domestically. In the absence of such information, we are unable to properly identify the welfare effects of trade sanctions imposed by Bangladesh's trading partners.[8] We encourage other researchers to attempt to overcome these limitations through the use of data from other developing countries. Such studies would help to determine if the patterns of gender employment in export industries are widespread.

Appendix A. List of industries in the export sector

Cotton textiles except handlooms (BSIC code: 1711)
Dying, bleaching and finishing textiles (BSIC code: 1712)
Jute textiles except handlooms (BSIC code: 1713)
Silk, art silk and synthetic textiles except handlooms (BSIC code: 1714)
Narrow fabrics except handlooms (BSIC code: 1715)
Handlooms textiles (BSIC code: 1716)
Woolen textiles except handlooms (BSIC code: 1717)
Manufacture of cordage, rope, twine and netting (BSIC code: 1723)
Manufacture of spooling and thread ball (BSIC code: 1724)
Ginning, pressing and balling of cotton (BSIC code: 1725)
Pressing and baling of wool (BSIC code: 1727)
Pressing and baling of other fibers (BSIC code: 1728)
Manufacture of textiles N.E.C (BSIC code: 1729)
Manufacture of knitted and crocheted fabrics and articles (BSIC code: 1730)
Wearing apparel except fur apparel (BSIC code: 1811)
Hats and caps (BSIC code: 1812)
Embroidery of textile goods and wearing apparel (BSIC code: 1813)
Wearing apparel N.E.C. (except footwear) (BSIC code: 1819)
Dressing, dying and manufacture of fur articles (BSIC code: 1820)

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Endnotes

1. The 2002-2003 survey is the most recent available. An earlier survey was undertaken in 1995-96.
2. Some suggest that, rather than being "well meaning," these bans reflect protectionist sentiments. As Neumayer and De Soysa (2005, p. 59) point out, "Whether such policies would be enacted for altruistic reasons or to protect low-skilled jobs in developed countries form 'unfair' competition, they might still achieve the opposite effect of what is intended."
3. The proposed bill threatened Bangladesh's export industries to such an extent that the Bangladesh Garment Manufacturers and Exporters Association joined the ILO and UNICEF in signing a Memorandum of Understanding in July 1995. The results was that 50,000 jobs held by children in the garment industry were eliminated (Rahman, Khanam, and Absar 1999). See McClintock (2001) for more discussion of the Harkin Bill.
4. There are 56 million children in Bangladesh ages 14 and under, and 35.1 million who are 5 through 14. Of these children, 45,694 are covered in the survey, and 6,002 (13 percent) perform market work. Researchers have noted that few children perform market work even in countries with substantial child labor (Edmonds, 2005a).
5. The notation closely follows Goldin (1979) and Amin *et al.* (2006b).
6. Choice of these variables is based on prior studies (Amin et al. 2004, Basu 1999, Basu and Van 1998, Ray 2000) in which the probability that a child will work is

estimated as a function of these variables. For the sake of comparability, we have also estimated the model of doing market work vs. not working using the new 2002-2003 data. (We do not present the results here.) Consistent with previous research, our results show that being a boy, being older, and being from a larger family all increase the probability of child labor. Being form an urban area, being more educated, having higher family income, and having more educated parents all decrease a child's likelihood of doing market work.

7. Some researchers include a variable indicating whether the head of the household is a male. In this study we omitted cases that were missing information on parents' educational levels. Over 99 percent of the remaining cases were children in male-headed households; thus, we did not include in our regressions a variable to identify the gender of the household head.
8. We thank an anonymous referee for pointing out this limitation.