The Trade Impacts of the Naming and Shaming of Forced and Child Labor

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Abstract

This paper investigates whether the provision of information regarding what foreign goods might be produced with child and forced labor affects imports to the United States. I use three different measures of information revelation: inclusion on the U.S. government's list of goods produced with child or forced labor, a media coverage index and an index composed from reports of the International Labor Organisation. This paper finds no evidence that information provision decreased United States imports of these goods. This implies that public information strategies without more concrete measures will not disincentive countries that export goods made with child and forced labor.

Keywords: international trade, child labor, forced labor, social labelling.

JEL Classification: F14, J81, O11.

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1 Introduction

Events like the revelations of child and forced labor in Uzbekistan's cotton fields in 2007, the Rana Plaza factory collapse in 2013 and forced labor in the Thai prawn fishing industry in 2014 have brought the issue of labor conditions to the forefront of public debate. Despite numerous international efforts aimed at the prohibition of these labor practices, child and forced labor remain challenges today. The International Labor Organization (2012) (hereafter ILO) estimates that there are 20.9 million forced workers in the world with 68% of these engaged in economic activities.[1] The ILO and the World Bank estimate that 168 million children between the ages of 5 and 17 are engaged in child labor (International Labour Office, International Programme on the Elimination of Child Labour, 2012). Given the scale of the problem and its expansive spread around the world, a recent literature has emerged examining what proactive steps could be taken to mitigate child and forced labor. This paper fills a gap in this literature by examining the previously unexplored macroeconomic effect of information revelation regarding the use of child and forced labor on international trade.

There are many historical examples of consumers reacting to distasteful information regarding good production by ceasing to buy the good. This can arise informally through consumers deciding to stop buying certain products. There is a long history of such consumer action in the United States dating back to the "American Free Produce Association" formed in 1838 (Nuermberger, 1942). This group opposed slavery in the Southern states and took action by advocating for consumers to only buy goods produced without the use of slaves. Consumer boycotts of sweatshops in the 1990's are another example of consumers refraining from buying goods due to repugnance of the means of production. More recently Kailash Satyarthi, a 2014 Nobel Peace Prize laureate, advocated for consumers to boycott goods produced using child labor (Gowen and Lakshmi, 2014).[2] There have also been cases of firms boycotting goods from certain countries; such as the world's

[1] These activities include agriculture, construction, manufacturing or domestic work. The remaining 32% of forced workers are are involved into forced sexual labor (22%) and government imposed forms of forced labor (10%).

[2] Specifically Kailash Satyarthi advocated for boycotts of Indian carpets produced with child labor.

largest retailer Walmart launching a boycott of Uzbekistan's cotton in 2008 (Birchall, 2008).

There are three broad types of interventions aimed at reducing child and forced labor (Basu, 1999).[3] The first is intranational, which is a set of government laws, regulations or non-governmental programmes aimed at deterring exploitative labor practices inside a country, for instance through providing access to education and nutrition (World Food Programme, 2003; The SOLD Project, 2007; Bangalore Rural Educational and Development Society, 2013). The second, supranational, is the collaboration of governments and international organisations with agreements aimed at the elimination of these labor practices globally. The work of the ILO and its underlying labor conventions is a good example of this (International Labour Organization, 1930, 1957, 1973, 1999). The third is extra-national, which consists of a set of efforts in one country aimed at influencing child and forced labor levels in a foreign country. One of the extra-national methods aimed at eliminating forced and child labor is to name and shame countries that are known to use child and forced labor in the production of export goods. The rationale for this strategy is to inform the importing governments, firms and consumers of the conditions under which various goods are produced, so that they can decide whether or not to purchase the goods. If importing firms and consumers choose to avoid buying the product, then the market share of exploitative firms and countries is lost and there is a clear incentive for them to cease their use of these exploitative labor practices (Freeman, 1994; Basu, 1999).

The most prominent example of this strategy currently in use is the "List of Goods Produced by Child Labor or Forced Labor" published by the U.S. Department of Labor (DOL). This list was established as part of the "Trafficking Victims Protection Reauthorization Act" (TVPRA), which was signed into law in 2006 with the aim of facilitating efforts to monitor and combat child labor and forced labor in the production of goods in foreign countries (Federal Register, 2006). This list (henceforth referred to as the TVPRA list) has the intended purpose of raising public awareness about forced and child

[3]Although the paper of Basu (1999) discussed the interventions in the context of child labor, these could also be applicable to forced labor case.

labor practices around the world and motivate governments, companies and civil society to combat the problem (United States Department of Labor, 2014). This list is conceived as an information campaign and inclusion or removal from the list does not depend on import volume. Indeed the DOL states that it "... did not distinguish between goods produced for domestic consumption and for export, due to data limitations and because this was not part of the mandate of the TVPRA" (United States Department of Labor, 2014).

This paper uses the aforementioned list as the primary resource to estimate the trade impacts of providing information to consumers on what goods may be produced with child and forced labor. I use imports data from Comtrade UN Statistics Division (2016) for all traded goods that were listed in the TVPRA list for at least one country. I use data disaggregated by goods and by country and thus every observation represents imports from a particular country from a particular industry in a particular year. I add to this dataset three measures of informational revelation: a dummy indicating inclusion on the TVPRA list itself, a media index that was complied from a diverse range of American newspapers covering around 21% of all daily newspaper circulation in the U.S. and an index compiled from reports on child and forced labor by the ILO covering a particular country in a certain year. I explore the variation in imports to the to the U.S. in a certain industry from a particular country using fixed effects at the industry country level and examine whether information revelation of child and forced labor leads to lower imports.

This paper finds no evidence of a negative impact of information revelation on imports. This finding of no evidence is robust even when attention is restricted to industries composed of consumer goods or when the analysis is disaggregated by sector including the agriculture, manufacturing and mining sectors. This leads to the major policy implication that extra-national policies revolving around information provision are unlikely to cause drops in trade, and hence might not provide a large incentive for a foreign government to improve labor practices in their country. This implies that more direct measures may be necessary to incentivise changes. This finding will also allay concerns that have been raised that by boycotting child and forced labor industries, the circumstances of the

affected workers may worsen as they are further impoverished.

This paper contributes to two bodies of the literature. The first literature examines how the public reacts to information about labor rights violations in the production of goods (Pruitt and Friedman, 1986; Freeman, 1994; Harrison and Scorse, 2010). Accordingly, Freeman (1994) suggests that consumers care about labor standards and that by providing information about the labor conditions that have gone into production of the good, the producer can give them a choice about which good to buy. He argues that even a small change in consumer behaviour would significantly influence revenue, which would in turn push these companies to improve labor conditions. While this idea of labelling[4] may be appropriate for mitigating consumer guilt[5] it has been criticized on the grounds of not being able to improve production conditions in developing countries (Brown, 2001). The other critique concerns the difficulties with the provision of trustworthy information to consumers on labels and the associated monitoring and maintenance costs (Basu, 1999). This can happen given that the firms may mislabel goods produced with poor labor conditions in order to benefit from higher market prices from the label (Freeman, 1994; Rodrik, 2003).[6] The effects of labelling are mixed on the empirical side of the literature with some papers finding that only a small portion of consumers are affected by labels (Dickson, 2001; Prasad et al., 2004) while other papers show a positive relationship between social labelling and reduction in child labor through welfare activities for above subsistence-level households (Chakrabarty and Grote, 2009). Whilst

[4]Labelling is one example of information provision which could include child labor free stickers, fair trade stickers etc. on the physical good. Another example of information provision is listing which provides information in a way that does not physically mark the good. In a consumer survey Marymount University, Center for Ethical Concerns (1999), labelling was the preferred way for consumers to receive information (with 56% of consumers preferring this way), and listing was the second most preferred alternative chosen by 33% of responders.

[5]See also Baland and Duprez (2009) who in a theoretical paper argues that in cases where a minority of consumers react to labels warning of child labor use, there will be no impact on child worker wages and hence the overall incidence of child labor. They argued that child workers will substitute into producing child labor labelled goods (to sell to consumers who do not react to labels) while adult workers shift into producing other goods. Thus labelling induces worker changes between industries but not changes in the overall incidence of child labor. Basu, Chau and Grote (2006) examine the effects of social labelling based on four features: child labor employment, consumer information, welfare, and trade linkages by employing a theoretical model. They find that consumers and firms benefit from social labelling. The trade sanctions of non-labelled products discourage trade, but do not affect child labor levels.

[6]There is also related literature on the effects of information shocks on reputation and value of firms (Barber and Darrough, 1996; Tadelis, 1999; DellaVigna and La Ferrara, 2010; Glazer, Kanniainen and Poutvaara, 2010).

papers have examined the effect of child and forced labor information in an experimental setting (partially with labelling), thus far no papers have examined how aggregate trade may be affected.

The second body of the literature related to this paper examines how shifts in consumer sentiment (broadly defined) can affect aggregate trade between countries (Michaels and Zhi, 2010; Fuchs and Klanna, 2013; Clerides, Davis and Michis, 2015). Whilst papers have found that consumer sentiment affects trade, all of these papers have examined sentiment changes that fundamentally emerge from political disagreements between countries. For instance Michaels and Zhi (2010) established a drop in France-US trade as a result of tensions emerging from the Iraq war while Fuchs and Klanna (2013) found that an exports to China declined after they were visited by the Dalai Lama. Thus far, no paper however has examined potential aggregate effects emerging from fundamentally altruistic responses to information provision.[7]

The paper proceeds as follows. Section 2 provides more details on the TVPRA list. The empirical approach is presented in section 3 while section 4 discusses the dataset that was created. Section 5 presents the results before section 6 concludes.

2 The TVPRA List

"The List of Goods Produced by Child Labor or Forced Labor" has been issued by the U.S. Government's Bureau of International Labor Affairs at the U.S. Department of Labor since 2009 and is submitted to the Senate every year on December 1.[8] The report lists country-goods for which it was believed that child and forced labor were used during the production process (for instance Bangladesh is listed for the use of forced labor in the production of garments). The criteria for the selection of information on which the list is based is that: the nature of the information is relevant and no more than 7 years old;[9]

[7]There is still a debate on whether the effects of such boycotts are positive for the workers in all circumstances (Edmonds, 2007), however the intentions of consumers behind such boycotts can be reliably described as being altruistic.

[8]In 2013, the TVPRA was amended to require the submission of the list biennially starting from December, 2014 and thus no list has published been in 2013. Thus, in total 5 reports have been published between 2009 and 2015, including 2009, 2010, 2011, 2012 and 2014.

[9]Since 2011, the TVPRA restricted this threshold to 5 years.

the source of the information is pertinent and probative; the information is corroborated by other sources and that the information shows significant evidence of child and forced labor practices (United States Department of Labor, 2014). The list has the purpose of increasing the awareness of governments, importing firms and consumers of the child and forced labor practices used in the production of goods.[10] The TVPRA list aims to promote efforts to combat child and forced labor issue and it does not block imports to the U.S. if the good appeared on the list.

In 2012, California State enacted "The California Transparency in Supply Chains Act" (U.S. Department of State, 2010). The law forces retailing and manufacturing companies that are doing business in the state of California and have at least $100 million in gross annual revenue globally to disclose their efforts for eliminating slavery and human trafficking practices from their supply chains. The act explicitly cites the extent of child and forced labor reported in the TVPRA list as the primary motivation for the reporting requirements. The act does not request that companies undertake any actions if forced labor takes place; however requires companies to disclose this information to its consumers and the general public. These reporting requirements are likely to accentuate the effect of this list as a company must disclose, in a prominent place on their website, the labor conditions in their supply chain. As such the presence of a supplying country-good on the TVPRA's list is likely to be problematic for a company that has to disclose their relationship with this country.[11]

A number of governments fear that inclusion on the list might have an adverse impact

[10]Note, that the U.S. government also published the report "Findings on the Worst Forms of Child Labor" as well as the "List of Products Produced by Forced or Indentured Child Labor" report. While these reports overlap to a certain degree, they are not used in my paper as they are much smaller. As a robustness check, regressions without including goods earlier mentioned in the "List of Products Produced by Forced or Indentured Child Labor" were performed however this did not change the conclusion of this paper. These results are available on request.

[11]Another similar act currently under the national congressional committee review is the "Business Transparency on Trafficking and Slavery Act" that was firstly introduced on August 1, 2011. The motivation behind this act is similar to "The California Transparency in Supply Chains Act" - the report measures taken to address slavery and child labor problems within business operations. The act would require all companies with $100 million in gross receipts globally to inform the Securities and Exchange Commission and the public regarding the efforts being made to eliminate slavery and child labor from these companies' supply chains. This act also explicitly mentions the extent of the problem outlined in the TVPRA list as a motivation for why action is needed (Maloney et al., 2011; Maloney and Smith, 2015).

on their exports. Sek Wannamethee. The Royal Thai Embassy (2010) rebutted the inclusion of Thailand (for several goods) on the list, stating that the list risks "damaging the country's reputation, and inflicting harm on the country's trade". A vice minister of Vietnam, Pham Minh Huan. The Socialist Republic of Vietnam Ministry of Labour, Invalids and Social Affairs (2012), responded to the inclusion of Vietnam on the list stating that "it might create negative effects on export of garment and brick from Viet Nam to the U.S. and other markets [sic]". The Vu Tien Loe. Vietnam Chamber of Commerce and Industry (2012) responded by stating that the addition of new goods from Vietnam on the list "will definitely have an adverse impact on the product sales in the United States and over the world [sic]". The Malaysian government allocated RM5 million to the Plantation Industries and Commodities Ministry to carry out a study in collaboration with the ILO with the stated aim of encouraging the DOL to remove Malaysian palm oil from the TVPRA list (New Straits Times, 2017). There are also a number of examples where companies themselves rely on the TVPRA list. The Walt Disney Company (2013), Ford (2014) and The Coca-Cola Company (2015) used the list as one of the key sources for their Corporate Social Responsibility reports and Code of Business Conduct policies concerning the potential for child or forced labor in their supply chains.

This list differs from previous awareness campaigns that have been studied in the literature. A key feature of other awareness campaigns is that they were focused on a specific sector and tried to target consumers by using media directly in an emotive way. By contrast, the TVPRA list is not actively promoted by the United States government and is intended to provide importing firms as well as consumers with trustworthy information about goods that are at high risk of being produced using child or forced labor. Updates to the list, however, are often covered in world media sources such as the New York Times (Wood, 2012) and the The Guardian (2014).[12]

[12]This list is not without criticism however. There are still a number of concerns have been raised about the evidence base, transparency of selection of goods and countries and the addition and removal of countries from the list (European Commission, 2013; Rosenthal and Hawkins, 2015). The TVPRA admits that there are constraints when producing the list including data availability, the disproportional appearance of some countries on the list and countries with information gaps (United States Department of Labor, 2014). To the extent that these criticisms diminish public confidence in the list will act against establishing an impact on trade. The media and ILO indices are not subject to this critique however.

3 Empirical Approach

This paper examines econometrically whether and to what extent the listing of forced and child labor practices of industries coming from various countries affects trade flows using the following econometric model:

$$\begin{aligned} \mathrm{M}_{ijt} = \beta_0 + \beta_1 \mathrm{TVPRA}_{ijt} + \beta_2 \text{Log GDP}_{it} + \beta_3 \text{Log Population}_{it} \\ + \beta_4 \mathrm{ER}_{it} + \alpha_t + \theta_{ij} + \epsilon_{ijt} \end{aligned} \tag{1}$$

The dependent variable, M_{ijt} is given by $\log(\text{Imports}_{ijt} + 1)$ where Imports_{ijt} is the imports, as measured in U.S. dollars and discounted by the applicable U.S. price indices from a country i of an industry j at time t. The regressor of interest, TVPRA_{ijt} is a binary variable that equals one if an industry appeared on the TVPRA list, and zero otherwise.

The terms θ_{ij} and α_t represent the country-industry fixed effects as well as the year time dummies and the statistical error term is ϵ_{ijt}. This paper uses combined fixed effects and therefore explores the variation within trade flows from a particular country in a particular industry. Following the methodology of Fuchs and Klanna (2013), the regression equation controls for GDP, population and the exchange rate of the exporting country are controlled for. A logarithmic transformation is used for GDP and population, while the exchange rate variable is the logarithm of the ratio of country i's exchange rate in year t to its exchange rate in 2003: $\mathrm{ER}_{it} = \log(\frac{\text{ExchangeRate}_{i,t}}{\text{ExchangeRate}_{i,2003}})$; where $\text{ExchangeRate}_{i,t}$ is the number of local currency units of country i needed to buy a U.S. dollar in year t.

These variables are included to control for the main time-variant factors that may explain exports to the United States. Generally, more trade would be expected with more populous countries. The GDP accounts for standard of living and economic performance of the exporting country. Higher GDP implies more industries could be exported which would suggest a positive coefficient. However, most of the goods on the list are labor intensive and may be exported more by poorer countries. Finally, a higher value of the

exchange rate indicates it is relatively cheaper for the United States to buy goods from the exporting country and so imports would be expected to be higher.

One of the key challenges of econometric analysis of trade patterns (in particular in papers applying the benchmark "gravity model") is the necessity to account for multilateral resistance (Anderson, 1979; Krugman, 1995; Anderson and van Wincoop, 2003). Multilateral resistance includes the competition effect of nearby countries. This paper accounts for multilateral resistance and controls for all of these time invariant factors by using exporter-industry fixed effects.

The fixed effects approach controls for time-invariant heterogeneity that occurs at a country-industry level. This is a natural assumption in the international trade context as countries specialise in the production of various goods. Some examples are the large shrimp industry in Thailand and cocoa industry from Cote d'Ivoire, which are a result of those country's respective natural endowments. Similarly countries where labor is relatively abundant specialise in producing labor intensive industries, for instance garments in Bangladesh and electronics in China. Thus, this paper utilizes fixed effects by country-industry, and these regressions explain changes in trade caused by time variant factors including the time variant controls and the treatment of interest being information revelation. Thus this identification strategy exploits only internal variation in trade flows between the U.S. and a certain country for a particular industry over time.

4 Data

The starting point for assembling the dataset was the "The List of Goods Produced by Child Labor or Forced Labor". I took a list of "industries" by examining the set of goods on the list and combining goods with the same corresponding HS6 codes. In total there are 136 unique goods in the list[13] which were aggregated into 102 industries.[14] I used harmonized system 1992 the six digit level codes commodity codes (HS6) to extract trade

[13]There are four goods that could not be included into the dataset due to a lack of data on Comtrade. These are miraa (stimulant plant), coca (stimulant plant), tanzanite and pornography.

[14]For example, the goods "bricks" and "clay bricks" were combined into a single industry as were "granite"" and "crushed granite". Table B.1 in the appendix B shows what goods were consolidated into the same industry.

values (Comtrade UN Statistics Division, 2016) for each country and good combination for every year from 2004 until 2015. The sample consists of 188 countries, which includes 71 countries that were listed for at least one good and 117 other countries.[15] All trade values were deflated with the U.S. import price indexes by the most disaggregated level available for each HS6 good. This was done before the trade values within each industry were added such that every country-industry-year was represented by one observation. I then augmented the dataset with GDP, population and exchange rate variables for the exporting countries from the World Bank Development Indicators (World Bank, 2016).

The main information indicator is a dummy variable to indicate whether or not the country-industry-year was listed for child and forced labor on the TVPRA list. Overall, 353 listed goods and country combinations appeared on the list between 2009 and 2014. The annual additions of goods, countries and country-goods are shown in table 1.[16]

Table 1: Goods and Countries added to the TVPRA list, by Year

	2009	2010	2011	2012	2014	Total
Unique Goods on List	122	6	2	4	2	136
Unique Countries on List	58	12	1	3	1	74
Country-Goods Added	281	30	8	26	11	353
Total Country-Goods	281	311	319	345	353	

I constructed the media index from websearch counts of article searches for 28 newspapers in total consisting of 8 major U.S. newspapers and 20 regional newspapers.[17] I follow the same specification as in the equation 1 with the regressor of interest being the media index in place of the TVPRA_{ijt}. The search queries I used were identical for all newspapers in order to get consistent results and consisted of country name, child

[15]Note that as listing occurs at a country-industry level, this paper utilizes the term "listed country" to describe a country listed for at least one good.

[16]Note that there were some removals from the list in 2014 which means the total differs from the sum of the additions. In this year, three country-goods were removed from the TVPRA list: tobacco from Kazakhstan, charcoal from Namibia and diamonds from Zimbabwe.

[17]The newspapers used are: Chicago Tribune, Los Angeles Times, New York Post, The Washington Post, New York Daily News, The Wall Street Journal, The Boston Globe, USA Today. The regional newspapers are Detroit Free Press, Baltimore Sun, Orlando Sentinel, Hartford Courant, Arizona Republic, Courier-Journal, Cincinnati Enquirer, Daily Press, Bangor Daily News, Reno Gazette-Journal, Asheville Citizen-Times, Argus Leader, Jackson Sun, Great Falls Tribune, The Spectrum, Burlington Free Press, Montgomery Advertiser, St. Cloud Times, Daily News Leader. Overall, around 7 million such websearches were performed.

and forced labor keywords as well as listed industry name and synonyms.[18] Given the difference in newspapers circulation levels, I weight the media coverage index for each newspaper by its weekday circulation level. In order to create a sample representative of the U.S. population, I selected these newspapers based on a few criteria. First, collectively these newspapers are read by a large proportion of the U.S. consumers with a share of total daily newspaper circulation of approximately 21%.[19] The media sources were chosen from the list of the most circulated U.S. daily newspapers - eight newspapers used in this research are among the top ten most read in the United States (Cision, 2016). Second, the set of regional newspapers that I chose are well spread geographically and are not concentrated in one area with 24 states being represented.[20]

This media data was converted into a media index. Denoting the raw number of media hits for newspaper n relating to country i, industry j in year t as $m_{n,i,j,t}$, the circulation of newspaper n as c_n and the sets of newspapers, countries, industries and years as N, I, J, T, the media index is calculated as:

$$\text{Media Index}_{i,j,t} = \log(1 + 1000000 \sum_{n \in N} \left[\frac{c_n}{C} \frac{m_{n,i,j,t}}{m_n} \right]) \tag{2}$$

Where C is the total circulation of all newspapers in the sample $C = \sum_{n \in N} c_n$ and a newspaper's hits from all queries is denoted $m_n = \sum_{i \in I} \sum_{j \in J} \sum_{t \in T} m_{n,i,j,t}$.[21]

A potential source of endogeneity exists with the possibility that the media index could be correlated with U.S. imports as newspapers might be more likely to mention particular industries and countries depending on trade with them. Thus, I supplement the analysis with a third information measure, which is an index compiled from the

[18] For example, the query for footwear in Russia was "("footwear" or "boots" or "shoes" or "heels" or "sneakers" or "sandals" or "flip-flops" or "sandals") and ("Russia" or "Russian Federation") and ("forced labor" or "child labor" or "exploitative labor" or "bondage" or "exploited labor" or "exploited worker").

[19] Author's calculations available upon request.

[20] Figure C.1 in Appendix C presents in blue in which states the newspapers have their publishing houses.

[21] This formula is complicated but has the desirable properties that each newspapers contribution to the index is weighted by its circulation. In addition m_n is added to ensure that a low circulation newspaper that happens to have a disproportionately large number of hits in total cannot contribute disproportionately to the index. A multiple of one million is added such that the media index comes out to be in the range of approximately 0-10 but the implications of the regressions are similar with different constants here.

ILO reports concerning child and forced labor in certain countries in certain years. The ILO is the leading international organization examining labor issues and has special focus on researching and counteracting child and forced labor internationally. The ILO's "International programme on the elimination of child labor" is the largest dedicated child labor program in the world (International Labor Organisation, 2017). In terms of forced labor, the ILO established their "Special Action Programme to Combat Forced Labor" in 2002. This unit later published the first quantitative global estimate of forced labor prevalence in 2005 and has regularly undertaken research aimed at monitoring and combating forced labor internationally (International Labor Organisation, 2012).

ILO publications are categorised by subject matter, country and year. A publication count was taken for documents pertaining to child labor or forced labor for each country and each year. As this data is not industry specific, the corresponding index will be used in regressions where trade values are aggregated by exporting country.

$$\text{ILO Index}_{i,t} = \log(1 + \frac{1}{2}(\text{No.Child Labor Reports}_{i,t} + \text{No.Forced Labor Reports}_{i,t})) \tag{3}$$

The top panel of figure 1 presents the average media index for TVPRA listed country-industries against other country-industries. I present the media index in the top panel, where as expected, countries-industries that were listed have a generally high number of mentions in connection with labor rights in the media. This finding lends some external support to the validity of the media index. While any index composed of word searches will inevitably exhibit some noise, this figure shows that countries-industries that were listed systematically got more media coverage as measured by the index. The bottom panel shows the ILO index for listed countries against not listed countries. This shows that countries that have been listed for at least one good are more likely to have child and forced labor reports written concerning them.

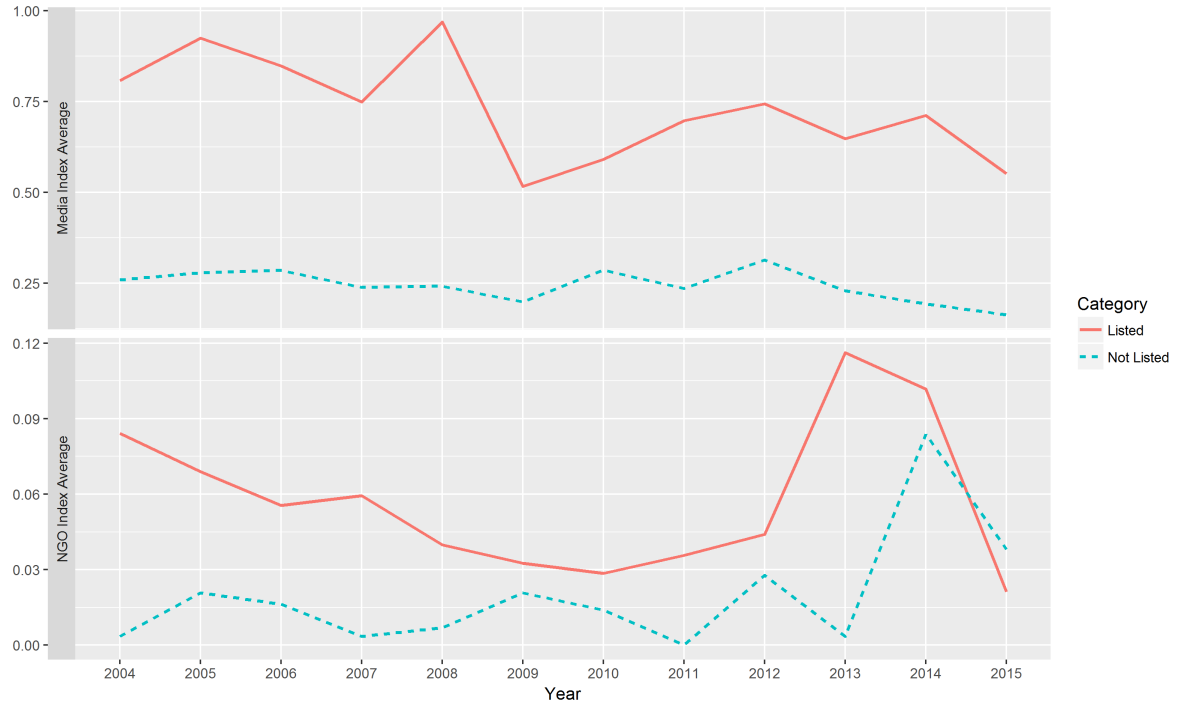

Figure 1: Listing and the Media and ILO indices

Summary statistics are presented in tables 2 and 3. Table 2 shows that trade values are higher for listed country-goods; thus reflecting a tendency for child and forced labor to be used in goods that a country specialises in exporting. This also shows that the data is segmented in the way that listed country-goods get more media coverage than nonlisted country-goods. In addition, media is increased in the year of listing and the years following listing, reflecting the fact that listing can induce media coverage as well as the possibility that events can occur which reveal information leading to listing as well as media coverage. Capital goods get the most media mentions, followed by consumption goods and then intermediate goods. In terms of sectors, manufactured listed goods get the most mentions, followed by mining and agriculture.

Table 3 splits country-specific variables between listed countries and nonlisted countries. Listed countries receive more ILO forced and child labor reports concerning them them, as compared to the nonlisted countries. The number of ILO reports does not change sharply when listing began in 2009, which supports the conclusion that the ILO's research is unlikely to be affected by TVPRA listing.

Table 2: Summary Statistics

			Panel A:	**Trade Values**			
	Listed No Obs	Listed Mean	Listed SD	Not Listed No Obs	Not Listed Mean	Not Listed SD	T-test
All	3, 506	U.S.$ 780.70	U.S.$ 8,255.00	228,116	U.S.$ 18.390	U.S.$ 448.60	4.87e-08
2005-2009	1, 283	U.S.$ 724.40	U.S.$ 6,302.00	85,576	U.S.$ 18.080	U.S.$ 403.90	6.3e-05
2010-2015	1, 731	U.S.$ 914.20	U.S.$ 10,280.00	109,208	U.S.$ 19.100	U.S.$ 515.00	0.000298
Consumption	1, 456	U.S.$ 520.70	U.S.$ 2,742.00	103,000	U.S.$ 15.490	U.S.$ 202.00	3.14e-12
Intermediate	2, 011	U.S.$ 106.60	U.S.$ 773.10	120,267	U.S.$ 6.460	U.S.$ 97.90	7.24e-09
Capital	39	U.S.$ 45,250.00	U.S.$ 62,530.00	4,849	U.S.$ 375.800	U.S.$ 2870.00	6.61e-05
Agriculture	1, 860	U.S.$ 60.39	U.S.$ 177.70	111,528	U.S.$ 3.831	U.S.$ 49.86	7.13e-41
Manufacturing	836	U.S.$ 3,116.00	U.S.$ 16,700.00	72,654	U.S.$ 46.690	U.S.$ 784.20	1.38e-07
Mining	810	U.S.$ 25.10	U.S.$ 94.32	43,934	U.S.$ 8.540	U.S.$ 141.20	1.16e-06
Child Labor	2, 610	U.S.$ 69.62	U.S.$ 301.30	-	-	-	-
Child and Forced Labor	598	U.S.$ 3,047.00	U.S.$ 19,270.00	-	-	-	-
Forced Labor	298	U.S.$ 2,461.00	U.S.$ 6,300.00	-	-	-	-
			Panel B:	**Average Weighted Newspapers Mentions**			
	Listed No Obs	Listed Mean	Listed SD	Not Listed No Obs	Not Listed Mean	Not Listed SD	T-test
All	3, 720	18.0	82	225,168	4.1	33	8.94e-25
2005-2009	1, 550	23.0	100	93,820	5.2	40	1.07e-11
2010-2015	1, 860	15.0	64	112,584	3.3	25	1.59e-14
Consumption	1, 404	24.0	100	97,332	5.6	40	1.53e-11
Intermediate	2, 280	13.0	60	123,384	3.0	26	1.04e-14
Capital	36	110.0	200	4,452	4.8	36	0.00392
Agriculture	2, 184	9.9	50	114,120	2.7	24	1.76e-11
Manufacturing	780	47.0	140	69,168	6.8	44	1.81e-14
Mining	756	12.0	62	41,880	3.6	30	0.000242
Year Of Listing -3	310	26.0	120	-	-	-	-
Year Of Listing -2	309	25.0	110	-	-	-	-
Year Of Listing -1	309	28.0	100	-	-	-	-
Year Of Listing	310	9.1	58	-	-	-	-
Year Of Listing + 1	310	10.0	40	-	-	-	-
Year Of Listing + 2	301	16.0	65	-	-	-	-
Year Of Listing + 3	302	18.0	83	-	-	-	-
Child Labor	2, 712	12.0	59	-	-	-	-
Child and Forced Labor	688	25.0	92	-	-	-	-
Forced Labor	320	53.0	170	-	-	-	-

All trade values are to 3 significant figures and expressed in millions of US Dollars. Newspapers circulations are weighted by circulation and then multiplied by a million as per equation 2 (but no log applied). For disaggregation by child, forced, child & forced labor not listed still means not listed for either practice.
A good-country included in child & forced labor will not be separately included in child labor or forced labor. The t-test column shows the p-value from running a t-test on the null hypothesis that listed and not listed values have the same mean. Significance is denoted by: * 10% level, ** 5% level, *** 1% level.

Table 3: Summary Statistics

Panel C: Controls and ILO publications

	Listed No Obs	Listed Mean	Listed SD	Not Listed No Obs	Not Listed Mean	Not Listed SD	T-test
GDP - All Years	908	190,000,000,000.00	820,000,000,000.00	1,447	290,000,000,000.000	720,000,000,000.00	0.00463
GDP - 2005-2009	350	140,000,000,000.00	490,000,000,000.00	567	270000000000.000	690,000,000,000.00	0.00123
GDP - 2010-2015	418	280,000,000,000.00	1,100,000,000,000.00	653	330,000,000,000.000	790,000,000,000.00	0.353
Population - All Years	923	55,000,000.00	160,000,000.00	1,504	22,000,000.000	110,000,000.00	7.11e-08
Population - 2005-2009	355	53,000,000.00	160,000,000.00	580	22,000,000.000	110,000,000.00	0.00101
Population - 2010-2015	426	57,000,000.00	160,000,000.00	692	23,000,000.000	120,000,000.00	0.000178
Exchange_Rate - All Years	868	1,300.00	3,600.00	1,216	420.000	2,000.00	2.25e-10
Exchange_Rate - 2005-2009	339	1,200.00	3,200.00	477	370.000	1,700.00	3.28e-05
Exchange_Rate - 2010-2015	392	1,400.00	3,800.00	545	500.000	2,400.00	7.17e-05
ILO - All Years	923	0.16	0.62	1,521	0.050	0.29	1.1e-06
ILO - 2005-2009	355	0.15	0.55	585	0.036	0.23	0.000348
ILO - 2010-2015	426	0.17	0.59	702	0.077	0.37	0.00493

A listed country here is a country listed for any good while a nonlisted country is not listed for any good. The t-test column shows the p-value from running a t-test on the null hypothesis that listed and not listed values have the same mean. Significance is denoted by: * 10% level, ** 5% level, *** 1% level.

Figure 2 depicts which countries were listed and for how many goods they were listed.[22] India was listed for the highest number of goods of all countries with 23 listed goods, followed by Brazil, Bangladesh and Myanmar with 16, 15 and 14 goods listed respectively. The majority of listed countries are from the Asia-Pacific region, followed by Latin America and the Caribbean region.

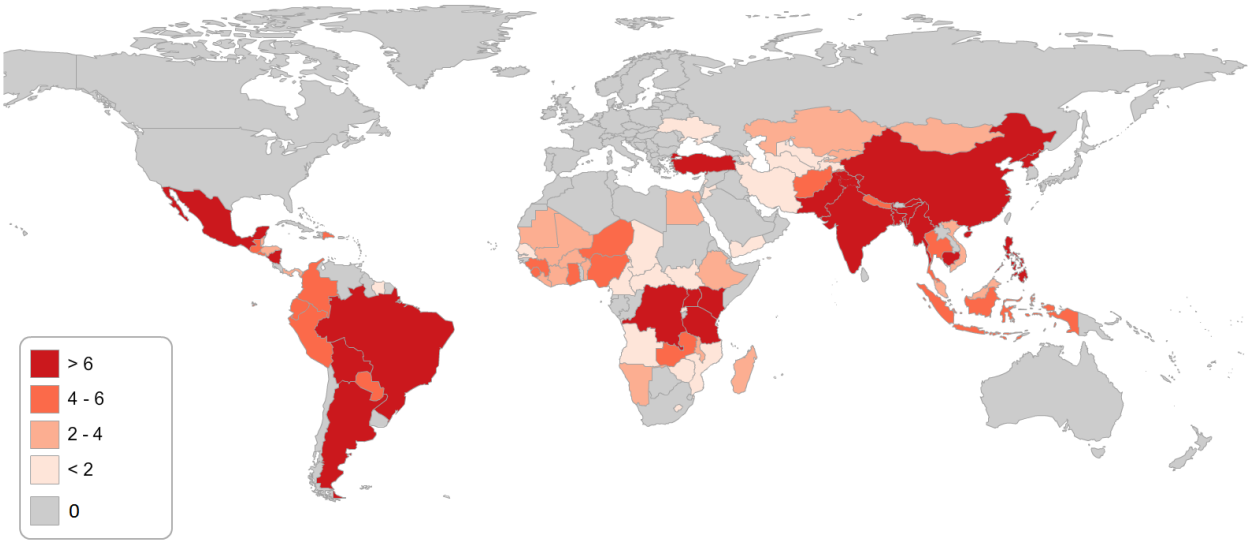

Figure 2: Listed Countries

Table 4: Composition of goods: 2010-2015

by Stage of Production	Number of Goods	Percentage of Goods	Percentage by Value
Consumption	44	43 %	44 %
Intermediate	56	55 %	28 %
Capital	2	2 %	28 %
by Sector of Production			
Agriculture	52	51 %	11 %
Manufacturing	31	30 %	79 %
Mining	19	19 %	10 %

Note: stage of production allocated according to the Broad Economic Categories classification. Sector of production assigned according to the TVPRA report.

The industries in the TVPRA list are diverse and include consumption, intermediate and capital industries. Table 4 shows the proportion of listed industries in each category. Industries were classified by whether more than 50% of the underlying 6 digit HS code

[22]Note, that the graph includes all country-industries that appeared on the list, excluding the country-industries for which trade data is not available.

goods were under the Broad Economic Categories Classification stage of production. The first column shows the number of industries belonging to each stage of production and the second column describes the percentage share of that good in the total number of goods. The third column in the table provides the share of industries in terms of their dollar value (in total U.S. imports) by their production stage. Over half of the listed industries are intermediate industries and their combined share in trade value is only 21%. Capital industries have the highest concentration in total imports.[23] The majority of the goods that appeared on the list are labor intensive rather than capital intensive. This is in line with the literature. Busse (2002) found a positive relationship between child labor and exports of unskilled labor-intensive goods. The paper argues that child and forced labor increases the comparative advantage of the unskilled labor intensive industries in export markets. The majority of the goods that appeared on the TVPRA list come from the agriculture sector and are at the intermediate stage of production. These are relatively homogeneous and simple (i.e. bricks). However, a small number of industries are broader (i.e. electronics).[24] I also dissaggregate the industries based on sectors of production. About a half of the listed industries are in the agriculture sector, followed by manufacturing and mining. While agriculture has a greater number of listings than the other sectors, it only accounts for slightly more than 10% of total trade value. The majority of the listed imports by value are from the manufacturing sector - almost 80%.

5 Results

I utilize two balanced datasets - the first consists of all country-industry combinations that are possible from all countries in all 102 listed industries. The second is the *preexisting relationship* dataset where attention is restricted to country-industries that had a trading relationship with the United States, pre-dating the TVPRA list. Country-industry pairs are included in the preexisting relationship dataset if there were strictly positive import

[23]This high concentration trade ratio is driven by the electronics imports to the U.S.. The imports share of electronics industry in total imports in capital stage is 95%.

[24]Further details on the data sources, measurement and potential aggregation bias are given in the Appendixes B and C.

flows in at least 1 out of the 7 years from 2003 to 2009 (prior to listing).[25]

Table 5 examines the trade impact of TVPRA listing on trade. Starting with the control variables, these coefficients are not statistically significant in all specifications, however this is not surprising when the regression results are compared to similar papers (Fuchs and Klanna, 2013, Table 1.2). Moving on to discuss the listed variable, none of the specifications exhibit a statistically significant impact of listing on imports to the United States. The listing of a good and the one year lag of this variable show the expected negative sign, however they do not reach statistical significance. Similarly, there is no statistically significant impact of the listing of goods for the preexisting relationship sample. Overall, the results as presented in table 5 provide no evidence that the naming and shaming of the TVPRA list itself had a statistically significant impact on U.S. imports.

Table 5: Effect of TVPRA listing of goods and countries on U.S. trade

	(1) All	(2) All	(3) Preexisting	(4) Preexisting
Listed	-0.0830		0.0270	
	(0.176)		(0.229)	
Lag Listed		-0.142		-0.0441
		(0.174)		(0.218)
Log GDP	0.0768	0.0696	0.148	0.130
	(0.0809)	(0.0811)	(0.227)	(0.224)
Log Population	-0.176	-0.213	-1.091	-1.308
	(0.259)	(0.249)	(0.839)	(0.794)
Log Exchange Rate	0.0983	0.111	0.0983	0.106
	(0.121)	(0.128)	(0.326)	(0.332)
Constant	4.228	4.989	23.12	27.21
	(3.726)	(3.666)	(12.69)	(12.00)
R^2 (within)	0.00124	0.00139	0.00637	0.00679
N	178,453	163,532	65,440	60,032

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

[25]Robustness checks with a different threshold for defining a preexisting relationship and three level fixed effects are included in appendix D.

One natural concern is that consumers continued purchasing goods which appeared in the TVPRA list because they were not aware of the poor labor conditions that went into the production of the good. I therefore use the media index described in section 4 to test whether media coverage of child and forced labor of a country-industry diminishes imports. Table 6 examines the effect of media coverage of listed industries over time for both datasets. The coefficients for media have an unexpected positive sign - more mentions about child and forced labor leads to more trade, however it doesn't reach statistical significance. This provides no evidence of a statistically significant impact of media coverage on U.S. trade.[26]

As a result of not physically marking products, TVPRA listing may be thought of as having a lesser impact on consumers than would occur with direct labelling. On the other hand firms that import products would be fully aware of goods listed status and may move towards substituting suppliers of these goods. To some extent firms might change their suppliers in expectation of a consumer backlash from media coverage of child and forced labor in good production. Thus, the next implication I test is whether industries that are closer to the consumer are more likely to have less trade as a result of naming and shaming. In order to do this I use the fixed effects regressions on the sample with all country-industry pairs (similar to the first column in Table 5) and divide the dataset by the stage of production of the industry. The categories of consumption, intermediate and capital are employed. I also consider a sectoral decomposition of the industry with the categories of agriculture, manufacturing and mining being employed.

The results are presented in table 7 for all of these decompositions. The coefficients of the listing variable, the media index and the lagged versions of these variables are shown. In almost all cases the effect is statistically insignificant. This result is consistent across

[26]The first and second regressions in tables 5 and 6 exhibit lower R^2 than other papers that use a similar format (for instance Fuchs and Klanna (2013)) primarily because those regressions use more disaggregated trade data. This greatly increases the number of observations. In addition, less aggregated data generally have a higher relative variance. Coefficients are also not specific for a particular industry as there are different industries in the regression. For every country-year cross section there exist over 100 different industries. When regressions are restricted to a single industry the R^2 values increase to the range of between 1% and 5%. Also, when I remove many zero trade relationship by restricting attention to country-industries with a preexisting trade relationship the within R^2 values are increased by a factor of about 5.

Table 6: Effect of media coverage of listed goods and countries on U.S. trade

	(1) All	(2) All	(3) Preexisting	(4) Preexisting
Media Index	0.000417		-0.00185	
	(0.00828)		(0.0118)	
Lag Media Index		0.00535		0.00657
		(0.00852)		(0.0125)
Log GDP	0.0748	0.0662	0.149	0.128
	(0.0807)	(0.0814)	(0.225)	(0.223)
Log Population	-0.176	-0.212	-1.089	-1.313
	(0.259)	(0.249)	(0.838)	(0.794)
Log Exchange Rate	0.0973	0.110	0.0993	0.104
	(0.121)	(0.129)	(0.325)	(0.332)
Constant	4.269	5.066	23.07	27.31
	(3.724)	(3.659)	(12.65)	(11.95)
R^2 (within)	0.00124	0.00138	0.00637	0.00679
N	178,453	163,532	65,440	60,032

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

Table 7: Effect of listing and media coverage on U.S. trade depending on stage and sector

	Stage			Sector		
	(1) Consump-tion	(2) Interme-diate	(3) Capital	(4) Agricul-ture	(5) Manufac-turing	(6) Mining
Listed	-0.285	0.0797	-0.121	-0.197	-0.0541	0.0749
	(0.281)	(0.187)	(0.211)	(0.222)	(0.401)	(0.323)
R^2 (within)	0.00146	0.00138	0.0142	0.00117	0.00316	0.00152
N	80,421	94,278	3,754	87,511	56,564	34,378
Media Index	0.00829	-0.00865	-0.0476	0.0125	-0.00171	-0.0178
	(0.0110)	(0.0125)	(0.0342)	(0.0133)	(0.0109)	(0.0222)
R^2 (within)	0.00139	0.00138	0.0144	0.00114	0.00315	0.00155
N	80,421	94,278	3,754	87,511	56,564	34,378
Lag Listed	-0.353	0.0216	0.0236	-0.130	-0.181	-0.172
	(0.262)	(0.178)	(0.205)	(0.242)	(0.436)	(0.301)
R^2 (within)	0.00166	0.00149	0.00877	0.00123	0.00345	0.00169
N	73,710	86,396	3,426	80,298	51,808	31,426
Lag Media Index	0.00316	0.000609	0.100	0.0120	0.00621	-0.00946
	(0.0109)	(0.0126)	(0.0419)	(0.0129)	(0.0117)	(0.0211)
R^2 (within)	0.00153	0.00149	0.00968	0.00123	0.00344	0.00167
N	73,710	86,396	3,426	80,298	51,808	31,426

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

all stages and sectors with the exception of the lag of the media index for capital goods, which is positive and narrowly statistically significant. Due to the number of regressions being performed a single significantly positive result is likely due to chance and the overall evidence suggests no impact of listing or media. Table 8 replicates the previous table with the preexisting relationship sample with similar conclusions. In this table the consumption sector being close to the point of the consumer exhibits the expected negative sign for listing for both existing and pre-existing relationship, however this remains statistically insignificant. Again, no evidence could be found for any statistically significant impact of information provision on trade and no evidence of a differential impact for sectors closer to the consumer.

One concern with the measure is the prospect that the U.S. ILAB will list a good

Table 8: Effect of listing and media coverage on U.S. trade depending on stage and sector (Preexisting Relationship)

	Stage			Sector		
	(1) Consumption	(2) Intermediate	(3) Capital	(4) Agriculture	(5) Manufacturing	(6) Mining
Listed	-0.0376	0.142	-0.0222	-0.111	-0.000766	0.279
	(0.335)	(0.270)	(0.240)	(0.322)	(0.368)	(0.548)
R^2 (within)	0.00751	0.00745	0.0131	0.00498	0.00971	0.00876
N	29,540	32,759	3,141	24,384	31,259	9,797
Media Index	0.000806	-0.00591	-0.0423	0.0189	-0.00686	-0.0208
	(0.0158)	(0.0185)	(0.0348)	(0.0227)	(0.0136)	(0.0330)
R^2 (within)	0.00751	0.00744	0.0133	0.00500	0.00971	0.00873
N	29,540	32,759	3,141	24,384	31,259	9,797
Lag Listed	-0.174	0.122	0.154	-0.0123	-0.168	-0.0951
	(0.306)	(0.259)	(0.237)	(0.314)	(0.428)	(0.535)
R^2 (within)	0.00811	0.00754	0.00704	0.00539	0.0104	0.00851
N	27,145	30,022	2,865	22,457	28,609	8,966
Lag Media Index	0.00124	0.00199	0.0960	0.0198	0.00507	-0.0120
	(0.0159)	(0.0187)	(0.0399)	(0.0227)	(0.0136)	(0.0326)
R^2 (within)	0.00808	0.00753	0.00793	0.00542	0.0104	0.00851
N	27,145	30,022	2,865	22,457	28,609	8,966

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

depending on that goods' recent trade with the United States. For instance it may be the case that increasing imports of a certain industry may warrant more scrutiny of the industry's production and hence a greater chance of the industry being listed. This is unlikely to be the case for the U.S. TVPRA list. The ILAB explicitly states that they do not consider trade with the United States when compiling the list. They state that, *"The ILAB mandate directs TVPRA to monitor and combat child labor and forced labor in foreign countries and to develop a list of industries from countries. It does not restrict the list to industries that are exported to the United States. In most cases, ILAB does not have information about whether the goods on the list are consumed domestically or exported."* (U.S. Department of Labor. Bureau of International Labor Affairs. Office of Child Labor, Forced Labor, and Human Trafficking, 2015). Furthermore, many sources used in the preparation of the list are largely from international media organisations and NGOs who are unlikely to base investigation decisions on trade flows with the United States.

Nonetheless to avoid any possibility of endogeneity, the last measure of public awareness about child and forced labor which I use is the ILO index which is compiled with publication counts coming from the ILO. This index was discussed in section 4. The ILO index is collected at country-year level and hence the trade values are aggregated across industries. This implies that an observation represents a country's aggregate exports to the United States in that year. The benchmark specification is shown in equation 4.

$$\begin{aligned} \mathrm{M}_{it} = \beta_0 + \beta_1 \text{ILO Index}_{it} + \beta_2 \text{Log GDP}_{it} + \beta_3 \text{Log Population}_{it} \\ + \beta_4 \mathrm{ER}_{it} + \alpha_t + \theta_i + \epsilon_{it} \end{aligned} \tag{4}$$

Table 9 presents four regressions with the first two columns using log aggregate trade (across all goods) as the dependent variable. The third and fourth columns use aggregate trade of only listed goods as the dependent variable, reflecting the fact that these goods are likely to be known as being at high risk of being produced with child and forced labor. The second and the fourth regressions use a lag of the ILO index. Together these results

Table 9: Effect of ILOs coverage of listed of goods and countries on U.S. trade

	(1) Log Agg. Trade	(2) Log Agg. Trade	(3) Log Listed Trade	(4) Log Listed Trade
ILO Index	-0.00766		-0.183	
	(0.0706)		(0.140)	
Lag ILO Index		0.0833		0.0489
		(0.0825)		(0.0831)
Log GDP	0.315	0.152	1.043	1.105
	(0.231)	(0.229)	(1.288)	(1.262)
Log Population	0.260	0.292	12.48	11.98
	(0.411)	(0.471)	(9.365)	(9.630)
Exchange Rate	-0.145	-0.256	1.276	1.220
	(0.210)	(0.245)	(1.528)	(1.584)
R^2 (within)	0.0325	0.0250	0.0285	0.0269
N	1,737	1,575	282	282

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Within R^2s are reported. Overall R^2s are 0.65, 0.56, 0.25, 0.25 for the four regressions respectively. All regressions cover the period 2004 - 2015 and include year fixed effects.

again suggest that there is no statistically significant impact of the ILO index on trade.[27]

6 Conclusion

A number of surveys have shown a negative consumer reaction to goods produced under poor working conditions. A recent survey by the Walk Free Foundation (2015) has shown avid support for consumer action; with 66% of consumers in the United States stating that they would switch to other products if they found out that a good they consume was produced under slavery conditions, while only 14% answered that they would continue buying the product. Furthermore, more than half of American customers[28] would trust the government to identify which products were made using slave labor. A number of surveys suggest that consumers are concerned about the labor conditions under which

[27]The R^2s of this table are lower than similar regressions in Fuchs and Klanna (2013, Table 1.2) primarily because of the greater amount of countries included (while my sample includes smaller countries like Uzbekistan, theirs did not) and the greater number of years. When the first regression is restricted to the set of countries examined by Fuchs and Klanna (2013) and the same timeframe the within R^2 is 0.14.

[28]After"don't knows" are removed.

imported goods are produced, and that they are willing to pay extra for goods that were produced under good working conditions. However it is not clear whether customers will follow throughout these statements under real circumstances or are merely giving a socially acceptable answer.

This paper investigated the trade effects of the information revelation of trade goods produced using child and forced labor. This was done employing three measures. The first was a dummy variable approach with the listing of a good on the United States Department of Labor's list of goods produced with child and forced labor. The second measure of public awareness was an index embedding media coverage data from 28 American newspapers. I matched these measures with a trade dataset disaggregated by industry and found no link between these information provision measures and the United States imports. A third measure was composed of ILO reports on child and forced labor that focused on specific countries. Again, this indicated that exporting countries do not experience a fall in their exports to the U.S. when the ILO published reports concerning child and forced labor in those countries.

A number of interventions have been presented as policy responses to child and forced labor. Some of these policy responses are relatively direct including measures discussed in the literature such as improving access to schooling (Edmonds and Pavcnik, 2005), the enforcement of labor standards (Basu, 2001) and the more extreme measure of trade sanctions (Basu, 2003). Other policy responses were based on information provision including labelling, boycotts and listing. As labelling and boycotts face significant costs and hence are difficult to implement broadly, listing has been suggested as an important approach to impact child and forced labor on a large scale.

This paper found no evidence to support the hypothesis that the provision of information diminished a country's export prospects. Furthermore, the findings do not support the concerns raised by several embassies concerning the effect of the TVPRA list on trade. Whilst this result suggests that naming and shaming efforts will not lead to worsening of human rights outcomes by diminishing an exporting country's trade prospects, it also suggests that a naming and shaming strategy without more direct measures will not act

as a large disincentive for countries that export goods made with child and forced labor.

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Appendices

A Definitions and Conventions Regarding Forced and Child labor

The List of Goods Produced by Child Labor or Forced Labor report uses the adopted definitions of indentured child and forced labor coming from International Labour Organisation Conventions. The definitions below are the exact definitions used by the United States Department of Labor (2014) during the creation of the list.

"Child labor under international standards means all work performed by a person below the age of 15. It also includes all work performed by a person below the age of 18 in the following practices: (A) All forms of slavery or practices similar to slavery, such as the sale or trafficking of children, debt bondage and serfdom, or forced or compulsory labor, 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 purposes; (C) the use, procuring or offering of a child for illicit activities in particular for the production and trafficking of drugs; and (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. The definitions used in developing the TVPRA List are based on standards adopted by the ILO. The ILO has adopted two conventions relating to child labor, the Minimum Age Convention, 1973 (C. 138) and the Worst Forms of Child Labor Convention, 1999 (C. 182). The ILO has also adopted two conventions relating to forced labor, the Forced Labor Convention, 1930 (C. 29) and the Abolition of Forced Labor Convention, 1957 (C. 105)."

"Forced labor under international standards means all work or service which is exacted from any person under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily, and includes indentured labor. Forced labor includes work provided or obtained by force, fraud or coercion, including: (1) by threats of serious harm to, or physical restraint against any person; (2) by means of any scheme, plan or pattern intended to cause the person to believe that, if the person did not perform

such labor or services, that person or another person would suffer serious harm or physical restraint; or (3) by means of the abuse or threatened abuse of law or the legal process."

B Mapping the TVPRA list to HS Codes

This section clarifies the way the trade Harmonized System codes were selected from the Comtrade database. Harmonized system 1992 commodity codes at the most disaggregated level possible were selected for the trade dataset. Due to the presence of some aggregation in the trade data there exists the likelihood that overaggregation can bias the effect of a good listing towards zero. This is not a key concern for two reasons. The first is that it is avoided to the greatest possible extent in this paper by using the most specific commodity disaggregation level for a given good description.[29] The goal of this was to include only goods that had been named and shamed by matching the specificity of the TVPRA list as far as possible. The second is whilst a broad listing on the TVPRA list may necessitate the use of more aggregated data, this would not necessarily act against finding results because a broad TVPRA listing term would also "shame" a wider range of goods. All trade figures are deflated by U.S. import price indexes by the most disaggregated level available for the good (HS 4-digit, HS 2-digit and HS 1-digit levels).

Another important aspect of the trade code selection is the stage of production. United States Department of Labor (2014) states "*...if there was reason to believe that child labor or forced labor was used in the extraction, harvesting, assembly or production of raw materials or component articles and these materials or articles are subsequently used as inputs in the manufacture or processing of final goods under non-violative conditions, only the raw materials or component articles are included on the TVPRA List and only for those countries where they were extracted, harvested, assembled or produced. If child labor or forced labor was used in both the production or extraction of raw materials or component articles and the manufacture or processing of final goods, the raw materi-*

[29]For instance where "soccer balls" were listed in the TVPRA list a 6 digit (highly disaggregated) HS code was used for "inflatable [sports] balls" rather than using a less disaggregated code covering all sporting equipment. Where the TVPRA list uses a broader term for a good (for instance "fish"), a broader (more aggregated) category is used.

als or component articles and the final goods are included on the TVPRA List for those countries where the violative conditions were found.".

The list that matches industries and listed goods are in the table B.1.

C Media Coverage Map

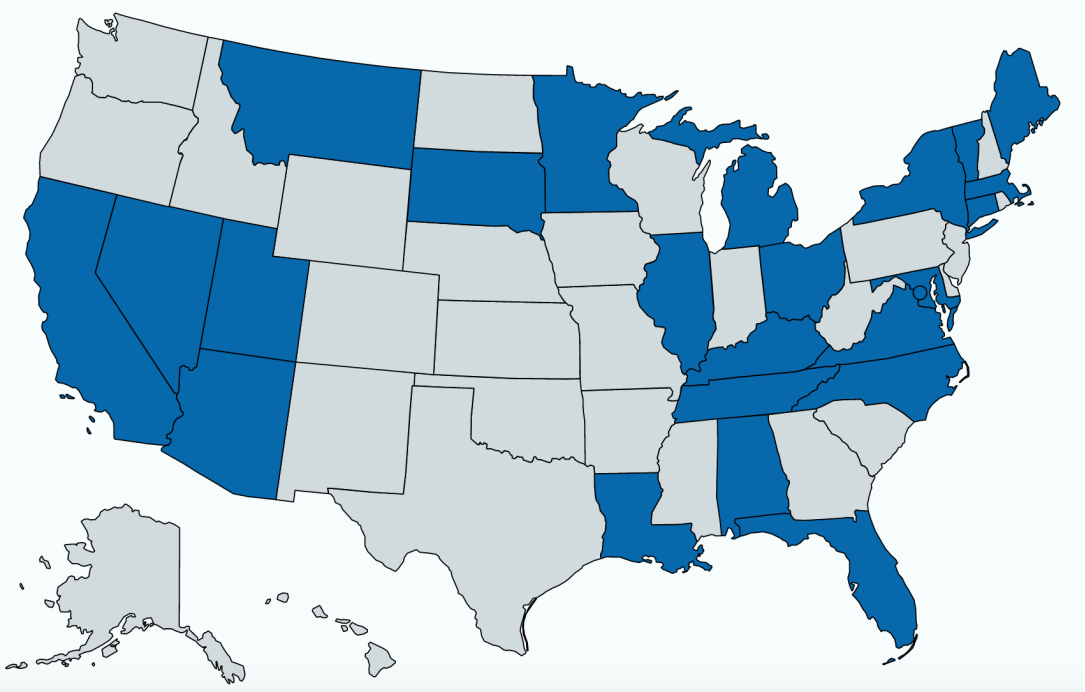

Figure C.1: Media Coverage of US States

Table B.1: List of Industries

Industry	Good Names	Industry	Good Names
1	Alcoholic Beverages	52	Meat
2	Artificial Flowers	53	Melons
3	Baked Goods	54	Nails
4	Bamboo	55	Palm Oil
5	Bananas	56	Olives
6	Beef	57	Onions
7	Blueberries	58	Palm Thatch
8	Brassware	59	Pineapples
9	Broccoli	60	Poultry
10	Carpets	61	Rice
11	Physic Nuts/Castor Beans	62	Rubber
12	Cattle	63	Salt
13	Cement	64	Sand
14	Ceramics	65	Sesame
15	Charcoal	66	Silk Fabric
16	Chile Peppers	67	Silk Thread
17	Christmas Decorations	68	Silver
18	Citrus Fruits	69	Sisal
19	Cloves	70	Soap
20	Coal	71	Soccer Balls
21	Cobalt	72	Strawberries
22	Cocoa	73	Sugar Beets
23	Coconuts	74	Sugarcane
24	Coffee	75	Sunflowers
25	Coltan (Metallic Ore)	76	Surgical Instruments
26	Copper	77	Stones (Pumice)
27	Corn	78	Tea
28	Cucumbers	79	Teak
29	Cumin	80	Timber
30	Eggplants	81	Tomatoes

Table B.2: List of Industries

31	Electronics	82	Toys
32	Garment	83	Vanilla
33	Fashion Accessories	84	Wheat
34	Flowers	85	Wolframite
35	Flowers (Poppies)	86	Yerba Mate (Stimulant Plant)
36	Fluorspar (Mineral)	87	Tobacco and Bidis (Hand-rolled Cigarettes)
37	Garlic	88	Bricks and Bricks (Clay)
38	Glass	89	Cotton and Cottonseed (Hybrid)
39	Glass Bangles	90	Footwear and Footwear (Sandals)
40	Goats	91	Furniture and Steel Furniture
41	Gold	92	Granite and Granite (Crushed)
42	Zinc	93	Leather and Leather Goods/Accessories
43	Grapes	94	Fireworks and Pyrotechnics
44	Gypsum (Mineral)	95	Tin and Cassiterite
45	Hogs	96	Pulses (Legumes) and Beans (Green, Soy, Yellow)
46	Incense (Agarbatti)	97	Shellfish, Shrimp and Lobsters
47	Iron	98	Gravel (Crushed Stones), Stones (Limestone) and Stones
48	Jade	99	Brazil Nuts/Chestnuts, Cashews, Peanuts and Hazelnuts
49	Locks	100	Fish and Nile Perch (Fish), Dried Fish and Tilapia (Fish)
50	Manioc/Cassava	101	Textiles, Textiles (Hand-woven), Textiles (Jute), Thread/Yarn and Embroidered Textiles (Zari)
51	Matches	102	Gems, Trona (Mineral), Sapphires, Diamonds, Emeralds and Rubies

D Robustness checks

I repeat the regressions of tables 5 and 6 with a different threshold for a preexisting relationship. Table D.1 shows the case when a threshold of 4 nonzero years is set and table D.2 shows the case when trade must be positive in all 7 years from 2003-2009.

Table D.1: Listing and Media Index impact on trade (Preexisting relationship with 4 years)

	(1)	(2)	(3)	(4)
Listed	0.183			
	(0.240)			
Lag of Listed		0.0397		
		(0.222)		
Media Index			-0.0145	
			(0.0102)	
Lag of Media Index				0.00262
				(0.0120)
Log GDP	-0.0462	-0.0496	-0.0368	-0.0460
	(0.289)	(0.287)	(0.285)	(0.285)
Log Population	-2.112	-2.314	-2.099	-2.314
	(0.907)	(0.882)	(0.906)	(0.882)
Log Exchange Rate	-0.0850	-0.0726	-0.0747	-0.0698
	(0.390)	(0.407)	(0.389)	(0.406)
R^2 (within)	0.0193	0.0209	0.0193	0.0209
N	41,983	38,520	41,983	38,520

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

Table D.2: Listing and Media Index impact on trade (Preexisting relationship with 7 years)

	(1)	(2)	(3)	(4)
Listed	0.140			
	(0.168)			
Lag of Listed		0.0575		
		(0.175)		
Media Index			-0.0104	
			(0.00755)	
Lag of Media Index				0.00360
				(0.00923)
Log GDP	-0.0589	-0.0594	-0.0491	-0.0532
	(0.229)	(0.245)	(0.227)	(0.244)
Log Population	-1.237	-1.376*	-1.229	-1.375
	(0.809)	(0.809)	(0.808)	(0.808)
Exchange Rate	-0.0888	-0.126	-0.0794	-0.122
	(0.329)	(0.370)	(0.328)	(0.369)
R^2 (within)	0.0333	0.0322	0.0332	0.0322
N	30,210	27,732	30,210	27,732

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

A concern may arise that the regressions presented in the section 5 do not control for all time invariant factors. I therefore replicate tables 5 and 6 with the three level fixed effects - at country & good, country & time, time & good levels following the specification below. The results of these are in the tables D.3 and D.4.

$$\begin{aligned} \mathrm{M}_{ijt} = \beta_0 + \beta_1 \mathrm{TVPRA}_{ijt} + \beta_2 \text{Log GDP}_{it} + \beta_3 \text{Log Population}_{it} \\ + \beta_4 \mathrm{ER}_{it} + \phi_{jt} + \theta_{ij} + \lambda_{it} + \epsilon_{ijt} \end{aligned} \tag{D.1}$$

Table D.3: Effect of TVPRA listing of goods and countries on U.S. trade using three level fixed effects

	(1) All	(2) All	(3) Preexisting	(4) Preexisting
Listed	-0.0366		-0.0298	
	(0.0843)		(0.148)	
Lag Listed		-0.104		-0.104
		(0.0880)		(0.153)
R^2 (within)	0.891	0.895	0.820	0.830
N	178,453	163,532	67,648	62,048

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.

Table D.4: Effect of media coverage of listed goods and countries on U.S. trade using three level fixed effects

	(1) All	(2) All	(3) Preexisting	(4) Preexisting
Media Index	0.00203		0.00666	
	(0.00765)		(0.0141)	
Lag Media Index		0.00879		0.00938
		(0.00781)		(0.0143)
R^2 (within)	0.891	0.895	0.820	0.830
N	178,453	163,532	67,648	62,048

Standard errors (in parentheses) are clustered by importers. All regressions include control that were outlined in the section 3. Dependent variable is logarithm of imports to the U.S.. All regressions with country & good fixed effects and year dummies. All regressions cover period 2004 – 2015. Within R^2s effects are reported.