E C O N O M I C S B U L L E T I N

Comparative Advantage, Trade and Labour Standards

Matthias Busse
HWWA − Institute of International Economics

Abstract

This paper empirically explores the relationship between labour standards and comparative advantage. Focusing on unskilled−labour−intensive goods and core labour standards, the results show that the effects of low standards depend on the type of standard: Weaker basic union rights are associated with a stronger comparative advantage. Forced and child labour also lead to an increase in the endowment of unskilled labour, and hence improve comparative advantage in unskilled−labour−intensive goods; the opposite occurs with discrimination against females.

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1. Introduction

Labour standards have been a controversial issue in international trade policy for more than 100 years. Over recent years, however, the debate over whether labour standards should be imposed in international trade has come to the forefront of international trade talks and has attracted a large audience, including humanitarian organisations and a variety of non-governmental ones. One question that is at the heart of the discussion consists of whether labour standards can affect comparative advantage, and thereby influence trade flows. It is partly as a result of that question that advocates of labour standards then go on to demand the introduction of internationally binding labour standards within the framework of the World Trade Organisation to ensure a "level playing field" and to avoid a "race to the bottom" on such standards.

So far, the empirical evidence presented in the literature is anything but conclusive. Very few authors have empirically explored the relationship between labour standards and comparative advantage and/or export performance. None of them has found any (negative) statistically significant relationship between the observance of core labour standards and comparative advantage. This paper will argue that their failure might be caused by their empirical approach, as they have either chosen questionable labour-standard variables (e.g. ratification of International Labour Organisation (ILO) conventions instead of enforcement) or they did not use appropriate control variables in their regressions. In addition, new regression results will be presented, showing that there could be a statistically significant relationship between the observance of core labour standards[1] and comparative advantage in international trade.

2. Previous Studies of Comparative Advantage, Trade and Labour Standards

So far, there are four studies that have addressed the link between labour standards and comparative advantage and/or export performance. Aggarwal (1995) focused on growth rates of US imports of labour-intensive goods and the observance of core labour standards of ten developing countries. She failed, however, to find any significant correlation between the two variables.

Exploring the relationship between basic union rights, such as freedom of association and collective bargaining rights, and measures of export performance,[2] the OECD (1996) found no evidence of a correlation for 78 OECD and non-OECD countries. A weakness of the OECD approach, however, is the lack of any analytical method. They largely relied on simple graphs in relating union rights and export performance. The interpretation of their results is, hence, based on subjective judgement rather than (more) objective statistical methods.

Mah (1997) analysed the export performance of 45 developing countries, measured as export shares of GDP, on the ratification of core ILO conventions. He found that export shares are negatively correlated with union rights such as freedom of association and collective

[1] Core labour standards are associated with important human rights and consist of freedom from forced labour, equal opportunity in employment, basic union rights, and the abolition of child labour. Other labour standards, such as safety and health standards in the workplace, are related more to working conditions. Since core labour standards receive almost universal acceptance and other labour standards are highly controversial, the following analysis focuses only on core labour standards.

[2] The OECD measured export performance as the change in percentage of the change of a country's exports in world markets over the period 1980-1990.

bargaining rights, but also non-discrimination in employment and abolition of forced labour. The meaningfulness of his results suffers from two weaknesses: First, he used the number of ratifications instead of actual observance of labour standards, and, second, the estimated equations in his study included only one control variable, the real interest rate. Using only this variable is definitely not sufficient to quantify which country characteristics are determining the export share-related country differences. It might be the considered ratifications of ILO conventions, but it could equally be the case that export shares (or the volume of trade) are determined predominately by other country characteristics. The omission of other key variables is likely to result in biased estimates when measures for labour standards as an explanatory variable are entered.

Rodrik (1996), on the other hand, in his empirical work on comparative advantage and labour standards used control variables like the population-land ratio for the relative labour endowment and average years of schooling for human capital as the natural determinants of comparative advantage. He included 84 countries in his study and focused on the ratio of textile and clothing exports to total exports (excluding fuels). As measures for the level of labour standards, he used several indicators for core and other labour standards, such as a democracy indicator, incidence of child labour, statutory hours worked or union density. However, he failed to find any statistically significant relationship apart from the statutory hours worked (in manufacturing). A longer working week is positively associated with an improved comparative advantage in textiles and clothing. While his study is particularly noteworthy in general, one possible explanation for the relatively low overall fit of his equations and the failure to find a larger number of statistically significant results is his choice of the dependent variable, the ratio of textile and clothing exports to total exports. His results could be biased if, say, child labour in a particular country is used rather in the production of toys or sporting goods and not in textiles and clothing.

3. Empirical Results

In the following analysis, comparative advantage in unskilled-labour-intensive goods is measured as the ratio of unskilled-labour-intensive exports to total exports of goods (the variable is labelled LABINTEX). The focus is on unskilled-labour-intensive manufactured goods,[3] which have basically two characteristics: a low technology content and high labour intensity (see Appendix A for a complete list). The commodity classification of labour-intensive goods is based on the work of Tyres et al. (1987), whereas technology intensities were obtained from the OECD (2001).

Apart from differences in technology or consumer preferences, comparative advantage is determined foremost by relative factor endowments. For the endowment of relatively unskilled labour, two control variables are used: the total labour force divided by the land area (LABDENS) for the relative labour endowment and the educational attainment index (EDU) of the United Nations Development Programme as a proxy for the skill level of the labour force. The first variable is expected to be positively and the second one negatively associated with LABINTEX.[4] The analysis covers all 82 countries reporting export data for the considered commodity categories.

[3] Since the impact of labour standards is likely to be felt most strongly in unskilled-labour-intensive goods, only these goods are considered in the analysis.

[4] See Appendix B for data sources of all variables.

To measure the level of core labour standards, five indicators are used. The first is FEMDISC for the degree of discrimination against women in working life. This variable is equal to the difference between the male and female labour force activity rates, which are the percentages of male and female population ages 15-64 that are working. The second is CHILD for child labour, measured as the percentage of children ages 10-14 that are working.

The third indicator is FORCED, which measures the prevalence of forced labour. This indicator is based on a report by the ILO (2001), providing extensive information on forced labour. To obtain a numerical indicator, each country has been assessed as to whether there are problems either in legislation or enforcement. The latter refers to a lack of government staff or the willingness to implement existing legislation, whereas the former relates to a lack of forced labour regulation or the existence of provisions in the law that are incompatible with ILO conventions. In the following regressions, a zero has been assigned to FORCED if no problems have been reported on both legislation and enforcement, one if there are problems with one of them, and two if there are inadequacies with both of them.

The fourth indicator, UNION, is for freedom of association and collective bargaining. This is the OECD (1996, 2000) indicator for compliance with ILO conventions on union rights, which in turn is based on reports from international trade union organisations and the ILO. The OECD has graded union rights on a scale from 1 (union rights guaranteed in law and practice) to 4 (union rights practically non-existent). And finally, there is CONVEN, representing the number of ratifications of the eight ILO conventions on core labour standards. These include conventions on union rights (No. 87 and 98), forced labour (No. 29 and 105), child labour (No. 138 and 182) and discrimination (No. 100 and 111).

The estimation results for the regressions are reported in Table I. The first column shows the benchmark regression with two explanatory variables, LABDENS and EDU. Both have the expected signs and are statistically significant at the 1 per cent level. FEMDISC is significant at the 10 per cent level and has a negative sign. Discrimination against females in employment, that is, a decline in labour standards, will reduce the labour endowment, as females either are forced to or will voluntarily reduce their labour supply. That in turn is associated with a weaker comparative advantage in unskilled-labour-intensive goods.

The opposite occurs for child and forced labour: CHILD and FORCED have a positive sign and are statistically significant at the 5 per cent or 1 per cent level.[5] Forced and child labour will increase the total factor endowment of unskilled labour and lead to a stronger comparative advantage in unskilled-labour-intensive goods. For example, an increase of one step in the measure of forced labour (going, say, from inadequacies in legislation or enforcement to problems with both of them) is associated with a rise in the ratio of unskilled-labour-intensive exports to total exports by 0.12 percentage points.

From a theoretical point of view, the outcome with basic trade union rights is ambiguous, as the effects depend on the motives and intentions of trade unions. If unions protect basic workers' rights and ensure that workers are not exploited, union rights can be associated with

[5] Since there is evidence of multicollinearity between the EDU and the three indicators CHILD, FORCED and UNION, the educational attainment index in these three regressions has been omitted. LABDENS has a stronger relative influence on LABINTEX than EDU and, in one of the regressions, CHILD is likely to be a substitute for EDU.

a similar outcome to the three above-mentioned labour standards, that is, either a rise or fall in the endowment of unskilled labour. On the other hand, if unions might introduce further distortions in the labour market, for instance by raising wages for unionised workers above market levels, the number of employed workers would fall.[6] Depending on the relative size of these effects, the endowment of unskilled labour could either rise or fall. However, in the case of the 82 countries included in the analysis, weaker union rights are associated with an improving comparative advantage in unskilled-labour-intensive goods. UNION is positive and highly significant at the 1 per cent level.

Table I: Comparative Advantage and Core Labour Standards

Independent Variables	Dependent Variable: LABINTEX					
Constant	0.455***	0.570***	0.073***	-0.011	-0.042	0.411***
	(0.092)	(0.111)	(0.020)	(0.017)	(0.038)	(0.104)
LABDENS	0.843***	0.785***	0.906***	1.062***	1.051***	0.849***
	(0.186)	(0.186)	(0.199)	(0.152)	(0.183)	(0.186)
EDU	-0.428***	-0.493***				-0.443***
	(0.104)	(0.109)				(0.106)
FEMDISC		-0.305*				
		(0.171)				
CHILD			0.429**			
			(0.203)			
FORCED				0.116***		
				(0.019)		
UNION					0.058***	
					(0.017)	
CONVEN						0.008
						(0.009)
R^2	0.36	0.39	0.27	0.75	0.46	0.37
N	82	82	82	42	56	82

Notes: See Appendix B for data sources; standard errors, which have been checked for heteroskedasticity, are reported in parentheses; multicollinearity has been tested by the creation of variance inflation factors (VIF); *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

Finally, CONVEN, for the number of ratifications of the fundamental eight ILO conventions, does not appear to be significant and is just above zero. Apart from this result, the number of ratifications seems to be a poor measure of the level of labour standards, as partial correlations between the number of ratifications for each of the four core labour standards and the equivalent indicators are all at or below 0.2.

To sum up, labour standards can affect comparative advantage in unskilled-labour-intensive goods. Once all commodity categories of unskilled-labour-intensive goods and control variables are included in the analysis, a statistically significant relationship between comparative advantage and the level of core labour standards can be found.

[6] This effect will occur only if we assume no further labour market distortions like, say, a monopsony. See Martin and Markus (2001) for a discussion of the effects with different labour market distortions.

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Appendix A: Low Technology and Labour-intensive Goods

Commodity	SITC, Rev. 3
Textile yarn and fabric	65
Glass, glassware and pottery	664-666
Furniture and bedding	82
Travel goods and handbags	83
Apparel	84
Footwear	85
Baby carriages, games, toys, and sporting goods	894

Sources: OECD (2001), Tyres et al. (1987) and own assembly; see text for explanation.

Appendix B: Definition of Variables and Data Sources

Variable	Definition	Source
LABINTEX	Exports of unskilled-labour-intensive manufactured goods divided by total exports of goods, 1998	ITC (2000)
LABDENS	Total labour force divided by land area (1,000 sq km of land), 1998	World Bank (2001)
EDU	Educational attainment index, based on average years of schooling in the above-25 population and illiteracy rate, index from 0-1, 1998	UNDP (2000)
FEMDISC	Difference between male and female labour force activity rates, ages 15-64, 1998	World Bank (2001)
CHILD	Percentage of children ages 10-14 who are not working, 1998	World Bank (2001)
FORCED	Indicator for forced labour, scale from 0-2, 2000	ILO (2001c)
UNION	Freedom of association and collective bargaining rights of unions, scale from 1-4, 1999	OECD (1996, 2000)