Trade, FDI and Labour Standards in Developing Countries: Can Consumers Have a Role?

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Abstract

This paper analyses how public awareness about labour conditions among consumers moderates the effect of FDI on labour standards in developing countries. The hypothesis presented is that an increase in consumer awareness in importing countries will have a positive moderating effect on the impact of FDI on labour conditions in exporting countries. It uses a theoretical foundation based on the already existing literature on the topic to demonstrate how consumer awareness might affect labour conditions. The main hypothesis is empirically tested using a panel data analysis, which includes a set of 90 developing countries over a period of 18 years. Consumer awareness is proxied by both the number of humanitarian NGOs present in a country and the amount of fair trade coffee beans sold in the Netherlands. The main results indicate that, for both proxies, the main hypothesis is rejected, revealing that consumer awareness does not have the power to moderate the relationship between FDI and labour conditions, demonstrating that through this channel, consumers do not play a role.

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1. Introduction

Everyday people face a diverse variety of choices: be it ordinary decisions such as where to have lunch and which clothes to wear or, more important ones, such as whether to buy or rent a house or which career move to make. The point is, whether a decision is considered as quotidian or not, it always brings consequences. When performing decisions as a consumer, even though we might not be aware of the impacts of our choices, suppliers surely are. They know that consumers are the core of their business and consequently will shape their products and services to cater to this group. An important aspect of this dynamic is the information asymmetries between the beginning of the production process and the point of consumption (Mosley & Uno, 2007). Consumers can only make thoughtful decisions if they have access to all relevant information. Whether suppliers and sellers want consumers to have this information is another point of discussion, as it might force them to change some of their policies and methodologies.

We live in a globalized world, where getting products from overseas is more than normal: "An important dimension of recent economic integration is the globalization of production networks. Most corporations tend to source a large percentage of their inputs, components, and, in some cases, even finished products from overseas suppliers" (Greenhill, Mosley, & Prakash, 2009, p.669). However, the fact that the origin of products is so far away from their final consumers brings consequences. For example, it is increasingly difficult to understand the route a product took to reach its point of consumption. Such obfuscation results in missing information about the conditions in which it was produced brings increased difficulties in taking actions to change those conditions.

Considerable discussion about the labour conditions in which products are produced comes together with Foreign Direct Investment (FDI), since investment from foreign investors is usually necessary for the production of goods overseas. Some authors argue that this results in a so-called "race to the bottom", where investors choose to invest in countries with cheaper labour, leading the countries to compete between themselves to attract more investors, consequently decreasing the labour conditions of their workers (Davies & Vadlamannati, 2013). As opposing to this perspective, other authors defend a climb to the top, where they defend that increased globalization will lead countries to adopt the best practices to attract investors (Busse, Nunnenkamp, & Spatareanu, 2011).

Considering the above pieces of information, it is relevant to understand the degree to which consumers can have an impact on the labour conditions of workers. This is especially true when considered in the context of our globalized world, where developing countries receive vast amounts of FDI inflows and the goods produced make enormous travels until their final destination. Do consumers shape the decisions of companies and investors to the point that it will impact the very beginning of the process, the production of the goods?

With this idea in mind, this paper will try to better understand if consumers, those at the very end of the supply chain, have the power to impact the very beginning of it: the production and its workers. To do that, the following research question will be analysed: how public awareness about labour conditions among consumers moderates the effect of FDI on labour standards in developing countries? Given the fact that many multinationals place their investment abroad, in cheaper locations, namely developing countries, this study will focus on those locations.

To answer the above research question, this paper starts by examining previous literature on the topic of FDI and labour conditions, going into a more detailed explanation of the role of consumers. This examination finishes with a critical assessment of a model by Elliott & Freeman (2001). This model is used as theoretical support for the empirical analysis: the model demonstrates how consumers, using anti-sweatshop campaigns, have the power to influence the labour conditions in which goods are produced.

To support this theory, an empirical analysis is conducted, to test the main hypothesis that an increase in consumer awareness in importing countries will have a positive moderating effect on the impact of FDI on labour conditions in exporting countries. This hypothesis is tested using a panel data analysis, specifically using a fixed effects model. The empirical analysis employs two different proxies for consumer awareness: the number of international Non-Governmental Organizations (NGOs) in each developing country and the amount of fair trade coffee beans sold in the Netherlands. When using either one or another proxy, the main independent variable is an interaction term between the respective proxy and the FDI inflows in a given country. Additionally, in order to create a more accurate model of the relationship between labour conditions and FDI, several controls have been added to the analysis. The selected control variables are Gross Domestic Product (GDP) per capita, unemployment rate, openness to trade,

freedom index and the belonging or not to World Trade Organization (WTO). Lastly, several robustness checks are performed, such as adding FDI stocks as a control variable, replacing FDI inflows by FDI stocks and lag the FDI inflows.

If the main hypothesis is confirmed, the study demonstrates the power of consumers, which indirectly supports the climb to the top hypothesis. If not, it discards the role of consumer awareness on labour conditions, using FDI as a channel.

This paper is structured as follows: the next section, section two, presents a review of previous literature on relevant topics such as FDI and labour standards and the importance of consumer awareness. The following section then discusses the theoretical framework used in the analysis. Sections four and five describe the data and methods used in the analysis and discuss the empirical results. Finally, section six presents a summary of the research and discusses some conclusions derived from the work.

2. Literature Review

2.1. FDI and labour standards

There is a vast amount of research on the topic of labour standards, FDI, and trade. However, there is little consensus between authors. Various studies have built arguments in favour of both the race to the bottom and climb to the top hypothesis. Whether defending a race to the bottom or a climb to the top, there are studies and evidence to prove nearly all different points of view and, overall, there is no agreement between different authors. Regarding studies supporting the race to the bottom view, authors claim that countries are competing between themselves by undercutting regulations, as is the case of Davies & Vadlamannati (2013). In this case the authors built a model designed to analyse the extent to which countries are competing on labour standards. In addition, their paper compares the results for both OECD and non-OECD countries, which is an interesting differentiation to include because it allows for direct comparisons between these two groups. With this comparison they observe that both groups of countries do compete, however, they differ in the ways they do it: while OECD countries compete in laws, non-OECD seem to compete in practices. Competing in laws means that countries use the laws guaranteeing labour rights to compete between themselves, while competing in practice means that countries use the enforcement of those laws to do it (Davies & Vadlamannati, 2013). These authors are not the only ones defending the existence of a race to the bottom: Olney (2013) empirically tests some hypotheses regarding an increase of FDI in locations with lower labour standards, as well as firms competitively undercutting each other's standards to attract FDI. The author concludes that his hypotheses are empirical verified, leading him to praise the race to the bottom hypothesis.

In discussing the climb to the top, some authors argue that higher labour standards can be transmitted from one country to another via the "Californian effect" (Greenhill et al., 2009). These authors argue, and prove with empirical evidence, that international trade can have a positive impact on working conditions in developing countries through the diffusion of labour standards from importing countries to exporting locations, which goes against the argument of the race to the bottom hypothesis. Another study from Busse, Nunnenkamp, & Spatareanu (2011) concurs with this argument: these authors make use of a panel analysis to show that the repression of labour rights does not benefit FDI.

According to this research, multinationals prefer countries where labour rights are respected, either because they are concerned about their reputation or because low labour standards are not an effective cost-saving measure. An article by Kucera (2002) also shows that there is no solid evidence supporting the traditional hypothesis that foreign investors prefer countries with lower labour standards. This study highlights the lack of the evidence for the race to the bottom hypothesis, even though stronger Freedom of Association and Collective Bargaining (FACB) is estimated to be related to higher labour costs which tends to have a negative effect on FDI. Kucera (2002) demonstrates that the negative effects of labour costs on FDI might be offset by the fact that, for example, countries with stronger FACB are estimated to receive higher FDI inflows. Consequently, Kucera (2002) claims that it is not possible to predict the effects of labour standards on FDI allocation just by considering the labour-cost productivity as a causal channel, since this cost can also be offset by positive non-wage effects of countries with stronger FACB.

Another perspective for understanding the arguments behind both race to the bottom and climb to the top is exploring the determinants of core labour standards. Research in this vein has been conducted by Busse (2004) who uses empirical evidence to conclude that several factors are positively associated with higher labour standards: higher income per capita, increased openness to trade, and enhanced human capital. In this case, openness to trade goes against the standard race to the bottom hypothesis.

Several authors critically examine the use of the term globalization in connection with labour rights. In this context, globalization can be defined as "a process of interaction and integration among the people, companies, and governments of different nations, a process driven by international trade and investment and aided by information technology" (The Levin Institute - The State University of New York, 2016). Mosley & Uno (2007) found that the positive or negative effects of economic globalization depends on the way countries are integrated into the global economy. They hypothesize a positive relationship between FDI and labour standards, arguing that multinationals can press governments to make improvements; foreign direct investors can bring good practices to the host countries; and investors also care about the quality of the labour instead of merely its costs. Nevertheless, they hypothesize a negative relationship between trade and labour rights. For this they argue that the only way countries could benefit from trade openness would be through use of consumer pressure, trade sanctions or long-term impact on economic growth. However, making use of a study by Elliott & Freeman (2001), Mosley

and Uno (2007) defend that those tools do not work in an effective way. Instead, when developing countries participate in international trade, they are forced to compete with each other, a dynamic that does not benefit the labour rights of the workers (Mosley & Uno, 2007).

Finally, a crucial aspect of FDI and trade that receives major attention from both researchers and international organizations is child labour. According to recent data from ILO, around 218 million children were employed in 2016; from those, around 73 million were employed doing hazardous work that could put their health in danger (ILO, 2017). Given this context, there is little wonder as to why so many authors focus on trying to find the causes and eventual solutions of this problem. One argument is that trade liberalization in developing countries leads to an increased demand for unskilled work, the type of work which can be performed by children. This demand then reduces the odds of parents sending their children to school (Neumayer & De Soysa, 2005). Another argument is that high levels of child labour attract foreign investors due to its low cost (Braun, 2006). A contradictory position is that more open countries tend to have lower interest rates, which decreases the costs of credit and consequently makes it easier for parents to invest in education (Neumayer & De Soysa, 2005). Fortunately, and contradicting the opponents of globalization, Neumayer & De Soysa (2005) show that countries which are more open to trade and more penetrated by FDI present a lower incidence of child labour. Additionally, Braun (2006) also shows that child labour has no positive effect on FDI in developing countries; rather, it is even possible that it has the opposite effect.

2.2. The importance of consumer awareness

A theme not deeply analysed in the context of FDI and labour conditions is the role of consumer awareness in importing countries on labour conditions of exporting countries. While not using the notion of consumers awareness directly, Kok, Nahuis, & de Vaal (2004) use the concept of psychological externalities in order to better understand the relationship between labour standards and free trade. As a starting point they state that "adverse circumstances in developing countries bestow a negative psychological externality on people in advanced countries" (Kok, Nahuis, & de Vaal, 2004, p.138), consequently forcing governments to take these adverse externalities into account.

Following this reasoning, they show how these externalities have an impact on the total welfare for both the importing and exporting countries. They conclude that in order to maintain the gains from trade and do not have losses caused by the feelings of consumers regarding adverse circumstances in developing countries, there is need for coordination, specifically organized by some superior authority such as the WTO (Kok, Nahuis, & de Vaal, 2004).

Elliott & Freeman (2001) use a theoretical model and a survey analysis to examine the ways labour rights activists and anti-sweatshop campaigns in the US have influenced labour conditions in developing countries. Their results suggest that these campaigns do not harm workers and are actually beneficial as catalysers for action from governments, highlighting that these benefits depend on the way campaigns are conducted.

In order to help companies to manage concerns about labour conditions in producing countries, Barrientos (2000) developed the concept of ethical trade. To meet the conditions of ethical trade, companies are required to adopt certain codes of conduct to cover the labour conditions of their suppliers in developing countries. Barrientos (2000) argues that the number of companies practicing ethical trade has been rising. She cites pressures from companies, consumers, and NGOs as the main reason for this success. This widespread pressure is partially generated by the faster spread of information allowed by globalization and digital communications technologies.

The most popular movement against poor labour conditions of workers is the anti-sweatshop movement. This movement aims to expose the poor labour conditions faced by workers and the labour rights violations associated with the globalization of apparel and footwear manufacturing (Bartley & Child, 2011). The movement works through numerous means, as "protests, media exposés, congressional hearings, lawsuits and a variety of other activities, coalitions of labour, human rights, religious and student activists" (Bartley & Child, 2011, p.426). Bartley & Child (2011) analyse how the rise of this anti-sweatshop movement in the US affected sales, stock performances, reputations and specialization rates of US firms, concluding that these movements actually have an impact: anti-sweatshop campaigns have a negative effect on sales, an influence on stock prices and on the ratings of corporate social responsibility.

Harrison & Scorse (2010) also analyse the subject of anti-sweatshop activism but focus on the countries where production takes place. They explore how anti-sweatshop campaigns impact Indonesian wages and employment, concluding that they have a

positive effect on wages. Nevertheless, they also bring some costs in terms of reducing investments or decreasing profits of the enterprises. However, there is not a significant effect on employment.

Micheletti & Stolle (2007) focus on identifying the main actors that mobilize consumers, as well as how these consumers take part in practical actions. They conclude that unions, anti-sweatshop associations and international humanitarian organizations are the main actors, and that consumers take action mainly through group support for the cause and as agents of corporate and social change.

As described above, consumer awareness has not yet been considered in analysing the relationship between FDI and labour conditions. Considering previous studies regarding anti-sweatshop campaigns, it appears to be a pertinent aspect to include as a moderating factor on that relationship. Therefore, it is relevant to analyse to what extent the relationship between FDI and labour conditions can be moderated by the consumer. Grounding this analysis in empirical evidence will be especially useful in determining the impact of consumer awareness on these variables.

Summarizing, authors as Greenhill et al. (2009) defend that an increase in FDI can be associated with improving labour conditions for workers in the investment receiving country. Others defend the opposite, that an increase in FDI can be connected with a decrease in working standards in the investment receiving country (Olney, 2013). These authors consider specific characteristics of the exporting country as moderating factors. Those characteristics are, for example, employment protections, skills levels, tax rates, democracy, labour laws and the existence of bilateral trade agreements. Recalling the analysis of the anti-sweatshop movements, there was some evidence, namely from Harrison & Scorse (2010), about the positive impact of consumer's actions, specifically in increasing of workers' wages due to the anti-sweatshop movements. Considering the fast pace at which information spreads in a digital era (Barrientos, 2000), it could be interesting to analyse how the ambiguous relationship between FDI and labour conditions could be moderated by the demonstrated positive impact of consumers. This leads to the question: how does public awareness about labour conditions among consumers moderates the effect of FDI on labour standards in developing countries.

2.3. Consumer's role

Consumer awareness can take various forms and roles. This abstract concept can be translated into consumer actions, which also play a vital role on the relationship between sellers and consumers. One of these roles is "support group for a broader cause" (Micheletti & Stolle, 2007, p.166). In this situation, consumers can give support to unions by helping them find solutions to worker's problems. As the actions of companies are often dictated by the desires and actions of consumers, their siding with workers and unions can make companies more responsive to the needs of workers. The role of consumers is so important that there are even specific boards established, such as *UNITE's behind the Label*, in order to get consumers involved (Micheletti & Stolle, 2007). Another way in which consumers can exert their influence is directly through their shopping patterns. When consumers are critical about the way they shop, considering the origins and production conditions of the goods they are purchasing (taking into account fair trade production, for example), they are directly influencing the producing companies' policies and favouring their workers (Micheletti & Stolle, 2007). In this way, keeping consumers informed through labelling measures such as fair-trade labelling becomes crucially important.

Micheletti & Stolle (2007) also discuss the role of consumers as the "spearhead force of corporate change." Once again, this idea is rooted in the notion that consumers have the power to change the way corporations execute their production. Here, the actions of ordinary citizens are mentioned, but the attention is mostly directed toward people that are seen as role models, such as government officials. These individuals can use their position not only to spread information about companies' production style but also to act as agents of change by opting for fair production products (Micheletti & Stolle, 2007).

Lastly, consumers can work as "ontological agents of societal change" (Micheletti & Stolle, 2007, p.166). In this role consumers have the power to change social norms in regard to shopping practices. According to this conception, if people are aware of the labour conditions in which products are made, they will automatically change their buying patterns. And, by changing their own patterns, they will influence the ones around them, consequently leading to something bigger, such as social or political reforms.

In sum, the above described literature demonstrates that consumers can play various roles regarding the change of practices and labour conditions in which products are made, mostly indicating a positive impact of consumers actions and more conscious choices.

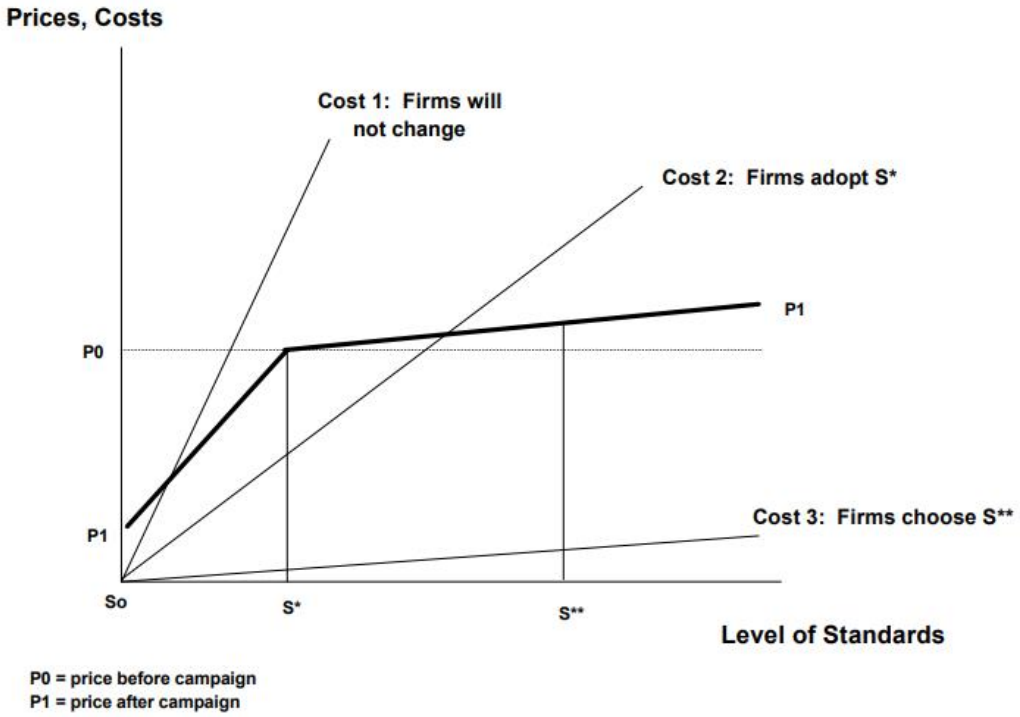
3. Theoretical framework

Work developed by Elliott & Freeman (2001) shows how a campaign (as a form of action from consumer awareness about the labour conditions in the production countries) can change the price a consumer is willing to pay for a product as well as the cost per unit of raising standards to different levels. With evidence from their survey, these authors observed that there are high elasticities of demand under good conditions but low elasticities of demand under adverse conditions. At the same time, purchases of an item sharply drop as its price increases. This implies that, when a product is identified as being produced under poor conditions, a firm might have considerable losses, but producers have a limited space to raise prices to pay for improvement in labour conditions.

According to these authors, when there is no campaign to inform consumers about labour conditions, meaning that there is no public awareness about labour conditions and consequently no consumer pressure, a firm charges P0 while producing at base level standard S0 (acting as a price taker). If there is a campaign, but it fails to engage consumers, its effect is null and therefore prices do not change.

When a campaign succeeds in creating public awareness about labour conditions among consumers, it will reduce the price a firm can charge while producing under bad conditions and raises the price a firm can charge if producing under good conditions. Using the results of their survey, the authors "assume that the slope of the price curve is kinked around the level of standards, S*, that consumers would accept. Firms suffer large reductions in price for below S* standards but gain only modestly from above S* standards*" (Elliott & Freeman, 2001, p.8).

Figure 1: Incentives to improve standards



Source: Elliott & Freeman (2001)

Now, considering the new price curve after the campaign, a firm will have to evaluate the costs of raising standards. This is illustrated in Figure 1, where the cost curve starts at 0 and rises linearly, indicating that a firm will maximize profits by selecting the level of standards where the price received for good inclusive standards will be higher than the cost of the standards. Looking into Figure 1, we observe that with C1, the costs of improving standards are too high, so the firm will not do it; C2 shows that the campaign has worked: the firm will either fail to meet S* and suffer price cuts to sell the same amount or enforce higher standards with the possibility of modest gains in price. With C3, the firm will produce at excessive standards, indicating that the marginal cost of standards is so low that the firm can even make more money by producing at higher standards that it did before the campaign.

As demonstrated above, an activist campaign can have an impact on prices paid by consumers; Elliott & Freeman (2001) assume that when there is no information available about the conditions under which products are produced, a firm will not care about the labour conditions in their facilities. This assumption is in line with the point defended by

Bartley & Child (2011), where one of the biggest concerns for firms regarding its labour conditions is the reputation that comes attached to it and the subsequent influence this reputation has on consumer preferences. Companies and brands do care about their consumers' opinions and views of their products, since this influence the demand for their products and may impact sales (Bartley & Child, 2011). This is particularly visible in brands where marketing is considered a strong driver of sales. In this sense, if consumers are informed that the products they buy are produced under unfair conditions, they might be willing to stop buying them. Here, companies, in an effort not to lose their sales and/or market power, will have a strong incentive to improve their work conditions (Micheletti & Stolle, 2007), leading consumer awareness to positively moderate the relationship between FDI and labour conditions.

Nevertheless, this relationship does not always work in such a clear way. For example, companies without a strong brand may be harder to influence through consumer awareness campaigns. As a result, activist campaigns will focus on larger brands with bigger reputations at stake, which gives smaller companies the ability to avoid being targets (Harrison & Scorse, 2010). Similarly, the already existing reputation of a company is also a factor. A firm which is not well-liked by consumers will not suffer as much from an anti-sweatshop campaign as a firm that enjoys a good reputation among consumers (Bartley & Child, 2011).

In the case of brands that are not well-known among consumers, campaigns have a slightly different result. Rather than focusing on the brand, consumers will focus on the product itself, and simply stop buying that specific product. This means that specialized firms will be more vulnerable than firms that sell a diverse range of products (Bartley & Child, 2011).

Finally, the same information that is used to increase consumer awareness about labour conditions will also be used to create specialized ratings within each company's industry. As these rankings also have an effect on sales and profits, this can also be a motivation for firms to take measures to increase their labour standards (Bartley & Child, 2011).

The model presented by Elliott & Freeman (2001) is fairly general. It does not explicitly indicate whether a firm is a monopoly or a price taker, thus it does not take into account the degree of market power a given company has. This is important to mention since, as analysed before, the power of a brand in the market will have an influence on

the way companies respond to consumer awareness roles: stronger brands will be forced to be more responsive to consumer awareness, as well as specialized firms, who can rely on only one type of product (Bartley & Child, 2011). Additionally, it could be equally relevant to analyse in a detailed manner how demand for products varies according to the success or failure of a campaign and the associated change in prices.

Elliott & Freeman (2001) analyse a case in the apparel industry. This industry is classified by economists either as perfectly competitive or as an oligopoly. A perfectly competitive industry is characterized by having numerous small producers where each has large market share and consumers see products from all producers as equivalent, not making a distinction between them (Krugman & Wells, 2009). In this type of market, all consumers and producers are seen as price takers, meaning that their individual actions have no effect on the market price of the good. In contrast, an oligopoly is defined as an industry with only a few number of sellers. It is a case of imperfect competition, where even though no single firm has a monopoly, producers are able to affect market prices (Krugman & Wells, 2009).

Even though it is not explicitly mentioned by Elliott & Freeman (2001) in the description of their model, it is assumed that firms are seen as price takers and consequently performing under perfect competition. This calls attention to some contradictory points: Bartley & Child (2011) assert that the market power of different brands has an impact on the way campaigns influence them. This implies that brands have different positions in the market and consequently their products are not seen as substitutes, which means these firms cannot be considered perfectly competitive and price takers, as implicitly assumed in the model. For the given model to apply, products from all of the firms must be considered as undifferentiated, meaning that the main distinction criteria is the price. This leads then to the conclusion that consumers will not care about the production labour conditions and that all types of campaigns will be ineffective.

Finally, the fact that authors do not mention information asymmetries present between the producer and buyer countries (Greenhill et al., 2009) and assume that all campaigns work the same way regardless of a campaign's target country and the host country/company in question also decrease the power of the model. This goes once again in line with the idea that bigger brands will be more often targeted by campaigns (Harrison & Scorse, 2010) and therefore forced to follow better practices in regard to labour conditions.

Beyond these critiques, it is understandable why the authors opted for such a generalist model: due to the existence of so many different options, it would be impossible to analyse each case individually in this type of study. Through their theoretical explanation it is possible to get a simplified view of the mechanisms through which consumer awareness will have a real impact on production standards and consequently on the labour conditions of workers in producing countries.

4. Data and method

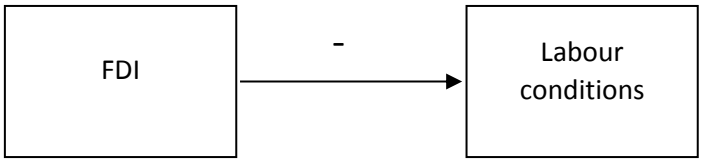
4.1. Hypothesis

This paper aims to answer the question: how does public awareness about labour conditions among consumers moderates the effect of FDI on labour standards in developing countries. As analysed in previous sections, consumers might interfere in markets in various ways, shaping a given company's strategies and models. Based on this, the following hypothesis is derived:

H1: An increase in consumer awareness in importing countries will have a positive moderating effect on the impact of FDI on labour conditions in exporting countries.

In schematic terms, it can be explained as follows: Figure 2 shows a simplified version of the regular race to the bottom hypothesis, where an increase in FDI inflows results in a decrease in the quality labour conditions. It could also be used to explain the climb to the top hypothesis; in that case the negative sign is replaced by a positive one.

Figure 2: The race to the bottom hypothesis



However, as presented in the literature review, there are multiple factors that can change the way this relationship works, for example GDP per capita (Davies & Vadlamannati, 2013) (Busse et al., 2011) (Braun, 2006), country openness to trade

(Davies & Vadlamannati, 2013) (Busse et al., 2011) (Braun, 2006) or indications of country risk (Busse et al., 2011). Not discarding the possibility of moderation by other factors, the target of this analysis is consumer awareness, since this factor has not been included by other authors in similar analyses and can also act as a moderator factor which might make labour conditions in developing countries actually increase.

Figure 3: Hypothesis 1

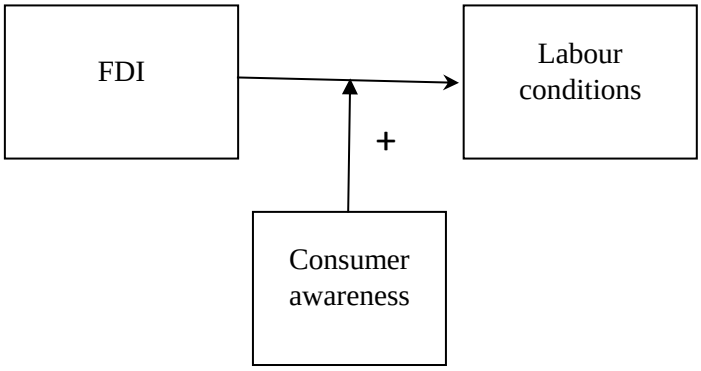


Figure 3 presents a simplified representation of hypothesis 1, where consumer awareness will increase labour conditions in developing countries through its moderating effect on FDI. According to this illustration, if the relationship between FDI and labour conditions is positive, consumer awareness will emphasize this relationship and if, on the other hand, the relationship between FDI and labour conditions is negative, consumer awareness will moderate this effect so that it becomes less negative.

4.2. Baseline specifications

The baseline specification equation is as follows:

$$LC_{c,t} = \beta_1 FDI*CA + \beta_2 FDI_{c,t} + \beta_3 CA_{c,t} + \alpha_c + \mu_{c,t}$$

The dependent variable, $LC_{c,t,}$ represents labour conditions in a developing country c in year t; $FDI_{c,t}$ represents foreign direct investment inflows into a developing country c in year t, $CA_{w,t}$ represents consumer awareness and FDI*CA represents the interaction term between FDI and consumers awareness, it being the key independent variable. α represents the unknown intercept for each country and μ represents the error term. Ideally, the term FDI would represent FDI inflows from western countries to developing

countries, so that it could be possible to analyse the influence of western consumers on the labour conditions in developing countries, however, due to the unavailability of this data, I am forced to simplify it and use the overall FDI inflows into a country.

The literature shows that there are other factors that contribute to shaping the labour conditions in developing countries. For that reason, it is necessary to add to the model other variables that have been proved to influence this relationship as control variables. The current literature on the topics of FDI, trade and labour conditions include controls from diverse categories, such as standard measures of economic development, as GDP per capita (Davies & Vadlamannati, 2013) (Busse et al., 2011) (Braun, 2006), country openness to trade (Davies & Vadlamannati, 2013) (Busse et al., 2011) (Braun, 2006), labour force participation (Davies & Vadlamannati, 2013), inflation (Busse et al., 2011), indications of country risk (Busse et al., 2011) and FDI inflows (Greenhill et al., 2009). FDI investments are treated differently among authors: while Greenhill et al. (2009) treats it as a whole, considering solely the FDI inflows, Kucera (2002) makes a differentiation between horizontal and vertical FDI, and Mosley & Uno (2007) uses two forms of FDI, FDI inflows and FDI stocks. These different treatments of FDI from different authors depend on the scope of each paper, meaning that the choice of which specific FDI to use is made according to the goal of the paper. Some other control variables commonly used are political in nature, such as degree of democracy and the ideology of the incumbent government and dummy variables to control the signature of IMF agreements and/or the membership to an organization such as GATT or WTO (Davies & Vadlamannati, 2013). The inclusion of membership to a trade organization as a control variable is used to make it possible to analyse if the country's labour rights are influenced by trade agreements. Presence of civil war and population size are also used as control variables by Greenhill et al. (2009), with it being argued that larger populations will have a higher probability of labour rights violations.

Given the analysis of previous literature, the aim of this study and the data available, a selection of controls is made. To ensure this model as complete as possible, it includes controls that belong to all major categories mentioned in the literature, such as economic development, labour market context, political context and relationship with other countries. As a measure of economic development, I include GDP per capita: as demonstrated above, this variable is used among most of the authors and gives a good indication of the economic development of a country. As an indicator of the labour market

situation in a country, unemployment rate is included. This is used as a replacement for the labour force participation, due to data unavailability of the later. Even though both variables represent distinct concepts, both are measurements of the labour market situation in a country, which is the control variable of interest in this analysis. In order to have additional information about the relationship of a country with other countries, and following the literature, openness to trade is also included. For the category of political context, given the nature of this study, I opted to include a freedom index, instead of simply a dummy to identify a country as being a democracy or not. The inclusion of this more nuanced variable makes it possible to have a more complete analysis. Finally, as an indicator of the relationship of a country with others, a dummy variable is included, indicating whether it signed GATT (General Agreement on Tariffs and Trade) or belongs to WTO (World Trade Organization).

The final equation, including the selected controls, is as follows:

$$LC_{c,t} = \beta_1 FDI*CA + \beta_2 FDI_{c,t} + \beta_3 CA_{c,t} + \theta_1 GDPcapita_{c,t} + \theta_2 Unemp_{c,t} + \theta_3 OpT_{c,t} + \theta_4 Free_{c,t} + \theta_5 WTO_{c,t} + \alpha_c + \mu_{c,t}$$

GDPcapita represents the gross domestic product per capita of a country; Unemp represents the unemployment rate of a country; OpT represents the openness to trade of a country; Free represents the freedom index and, finally, WTO indicates whether a country belongs or not to World Trade Organization (or signed the GATT agreement); for all these variables the information is regarding country c in year t.

4.3. Methodology

The choice of countries for the analysis is done based on the United Nations Statistical Division classification of regions of Developing regions (United Nations Statistical Division, 2018). Based on this classification, a further selection is made according to the countries presented in the Mosley & Uno (2007) dataset, which is the source of data for my dependent variable. This results in a list of 90 developing countries which will be used for a period from 1985 to 2002. The list of countries used can be found in Appendix B.

Considering the types of data, which is a dataset for 90 countries for a period of 18 years, it indicates the existence of time series observations over time: panel data. The

dataset used consists of a strongly balanced panel, indicating that each panel contains the same number of observations for each point in time (Hsiao, 2007).

According to Hsiao (2007), panel data presents some important advantages when compared to simple cross-sectional models or time series. The first advantage relevant for this analysis is data availability: even though its collection might be costly, it has become widely available, which makes use of it very easy. The second advantage of panel data over cross sectional data is that it allows more degrees of freedom and more sample variation, "improving the efficiency of econometric estimates" (Hsiao, 2007, p.3). The third advantage is this data captures more complex issues than simple cross-sectional data: cross sectional data would not make the differences among countries visible, while panel data will. Lastly, it allows for the study of dynamic relationships, meaning relationships over time, which is a goal of this paper.

In panel data there may be specific individual effects, in this case per country. Those effects can be random or fixed. To test whether panel data with random or fixed errors must be employed, researchers often opt to run a Hausman test. This tests the null hypothesis of no correlation between the independent variables and unit effects/specific errors (Clark & Linzer, 2012).

Both random effects and fixed effects present some advantages and disadvantages: random effects allows parameters to stay constant when the sample increases, this "allows derivation of efficient estimators that make use of both within and between (group) variation" (Hsiao, 2007, p.11), and "allows the estimation of the impact of time-invariant variables" (Hsiao, 2007, p.11). On the other hand, it presents the disadvantage that, when effects are correlated or there is difference among individuals, the resulting estimator is biased (Hsiao, 2007). Fixed effects allow "the individual-and/or time specific effects to be correlated with explanatory variables" (Hsiao, 2007, p.11) but on the other hand the "FE estimator does not allow the estimation of the coefficients that are time-invariant" (Hsiao, 2007, p.11).

When dealing with this type of data, some important questions should be taken into account: heteroskedasticity and autocorrelation. To control for these, after deciding which model to use, either random effects or fixed effects, some diagnostic tests are performed. To control for the presence of heteroskedasticity, a modified Wald test for groupwise heteroskedasticity is performed; this test is a straightforward way to identify heteroskedasticity and tests the null hypothesis of homoscedasticity (or constant

variance). In the case that heteroskedasticity is detected, a "robust" option can be added in *stata* to obtain heteroskedasticity-robust standard errors (Greenhill et al., 2009).

Even though autocorrelation tends to be present in bigger panels, usually over 20-30 years, it is tested for as a preventive measure, since it causes the standard errors of the coefficients to be smaller and a higher R-squared. To do this test, I make use of a Woolridge test for autocorrelation in panel data, which tests the null hypothesis of no serial correlation (first order auto-correlation), and, in the case it is detected, *stata* allows the use of the command "cluster", which clusters the standard errors by country, avoiding then autocorrelation problems (Greenhill et al., 2009).

Additionally, and given that the key independent variable is an interaction term, the variables involved in the interaction are centered. Centering allows the coefficients to be more interpretable and avoids multicollinearity when multiplying the variables for the interaction term (Williams, R., 2015).

To finalize, robustness checks are performed to ensure that other possibilities are considered. The first one is simply adding FDI stocks as a control variable to the main models. Due to its close relationship with FDI inflows, it is important to understand if it is also relevant, or how it affects the model, when included. The second one, is replacing FDI inflows by FDI stocks. FDI inflows represent the impact of new investments in the country, while FDI stocks represents the overall presence of FDI in the country. In line with this, it is important to understand how the impact of FDI on labour conditions is moderated by consumer awareness differently with a measure of the presence of FDI in a country and new investments on it. Finally, one may say that the moderation effect of consumer awareness on FDI is not instantaneous, and that it might take time to be noticed; to control for this, FDI is lagged for both one and five years.

4.4. Data description

Dependent variable:

Labour conditions in developing countries: in order to have a complete dependent variable that includes the most important factors on labour rights, authors such as Davies & Vadlamannati (2013) and Greenhill et al. (2009) choose to use Mosley & Uno (2007) all-inclusive labour rights dataset, and consequently their labour right index to measure labour conditions in a country. Mosley & Uno (2007) build a dataset of collective labour rights to fill an existent gap in this topic, since previous studies have focused mostly on

human rights. In their index, these authors focus on topics from "legal rights of workers to freedom of association and collective bargaining" (Mosley & Uno, 2007, p.929). They use Kucera's (2002) template to construct their dataset; Kucera's (2002) template includes 37 types of violations grouped in six categories: freedom of association and collective bargaining-related liberties, the right to establish and join worker and union organizations, other union activities, the right to bargain collectively, the right to strike and rights in export processing zones. Kucera (2002) uses assessments from experts to attribute a weight to each violation. When doing an assessment of the violations, Mosley & Uno (2007) use data from three important sources to reduce eventual bias: U.S. State Department Annual Reports on Human Rights practices; International Labour Organization Committee of Experts on the Applications of Conventions and Recommendations and Committee on Freedom of Association reports and, lastly, the International Confederation of Free Trade Unions Annual Survey of violations of Trade Union Rights. With this assessment, the authors give a score of one if the violation occurs and zero if it does not (multiple violations on the same type are still given a score of one); after this, they multiply these scores by the weight of each category and, the sum of these scores gives the annual measure of labour rights violations. This tool is considered by Davies & Vadlamannati (2013) as the best available option and it represents a huge improvement in comparison to previous ones created by other authors (as Cingranelli and Richard (2006) or Böhning (2005)). This improvement is mostly due to its "multiple sources of information, sophisticated weighting methodology and reliability of the information" (Davies & Vadlamannati, 2013, p.5).

Even though it is considered the best option, this index still presents some weaknesses: Davies & Vadlamannati (2013) are critical of the fact that it does not include certain aspects such as minimum wages or individual labour rights, as employment or working conditions. Also, it focuses mostly on the existence of legal rights and not on their actual enforcement. Another disadvantage is that it contains data only until 2002, however, given the specificity of the pretended analysis and the absence of a complete index which includes more recent years, this represents the best available option. Considering the aim of this study, and to in order to make it as complete as possible, I will follow these authors and use the same all-inclusive dataset, using their labour rights index as a dependent variable representative of labour conditions in developing countries.

This index varies from 0 to 76,5, being 0 an indicator of no violations in a country and 76,5 an indicator that all violations analysed occurred. However, the authors indicate that no country exhibits such a high value of violations as 76,5, and that the highest values are around 30. For simplifying the interpretation of the results, this scale is reversed, so that lower values indicate worst labour rights and higher values indicate better workers' rights.

Independent variables:

Consumer awareness: This is an abstract variable which is impossible to measure directly. This indicates that it will have to be measured by the use of a proxy. A proxy to measure consumers awareness could be the number of articles regarding child labour and labour conditions in developing countries produced per year, as employed by Harrison & Scorse (2010). They use the number of papers published on child labour and labour conditions in developing countries as a proxy for consumers awareness, since it demonstrates how salient these issues are. This also reflects the ease with which people can get information about these issues. This proxy presents a disadvantage that, as is well known, science has been evolving over the years and consequently more articles are published each year regarding all topics, which could bias the results. Still, due to methodological aspects and to the fact that this data is not directly available and collecting it manually would be too costly in terms of time, this proxy will not be used.

Another possible proxy could be the number of labour inspection visits to workplaces per year. According to ILO: "Labour inspection visits refer to the physical presence of a labour inspector in a workplace for carrying out a labour inspection and which is duly documented as required by national legislation". The rational to believe that there is a connection between the number of inspection visits to workplaces in developing countries and the pressure exerted by consumers in developing countries is based on the analysis of previous case studies. One of these cases is the anti-sweatshop movement against Nike factories, which lead to a boycott in Nike products in 1990. Afterwards it was observed that, besides other measures, there was a significant increase in the number of reports produced due to factory visits (Fair Labor Association, 2018). This proxy is relevant in the sense that it is an indicator of the presence of inspectors in the field, however it can also be criticized for being a very indirect way of measuring consumers awareness. If the use of this proxy is based on previous case studies, where it was revealed

that after firms have had problems related to their workers' labour conditions, this measure might then be an indicator of the results of the consumers awareness, but not of the consumers awareness itself. Plus, it is only representative of situations where well-known brands are present and where controls actually exist, which might not be the case for all the countries involved in this study. However, this proxy cannot be used because ILO's databases do not contain enough information for the years under analysis.

Due to the infeasibility of the previously described proxies for consumer awareness, two other achievable options are included: the presence of Human Rights Non-Governmental Organizations (NGOs) in developing countries and the amount of fair trade coffee beans sold in Netherlands. Since none of the proxies available represent a totally adequate measurement of consumer awareness, both the number of Human rights NGOs and the amount of fair trade coffee beans are included in the analysis. The paper compares the results obtained under the use of the two different options.

- *Presence of Human Rights Non-Governmental Organizations (NGOs):* the presence of International NGOs can be used as a proxy for the exposure of a country to global cultural norms (Greenhill et al., 2009). It can also be used as an indicator about the way the topic is relevant in the importing country and how it acts to get the issues under control in the producer country. Mosley & Uno (2007) use the presence of Human Rights NGOs "to assess the effects of human and labor rights activists on labour rights outcomes" (Mosley & Uno, 2007, p.935). According to these authors, the presence of NGOs can be positively or negatively associated with labour rights: on one hand, NGO activity can lead to an increase in the reporting of labour rights violations, leading to a negative association between labour rights and the presence of NGOs; on other hand, due to the presence of NGOs, multinationals are subject to more controls, forcing them to respect worker's rights and generating a positive relationship between NGOs and labour rights.

  A weakness of using this proxy to measure consumer awareness is that, similarly to what happens with the number of labour inspections to the workplace, it can be said that it is a measure of the results of consumer awareness and not of consumers awareness itself. On the other hand, if consumers are more aware, it will mean that international organizations will also be, leading to a bigger presence in

the needed countries and eventually a closer control of workers conditions. This data is obtained from the Mosley & Uno (2007) dataset.

- *Amount of fair trade coffee beans sold in Netherlands:* According to the World Fair Trade Organization (WFTO), fair trade can be defined as "a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South." (WFTO, n.a.). The World Fair Trade Organization goes further, and states: "They (Fair Trade Organizations), backed by consumers, are engaged actively in supporting producers, awareness raising and in campaigning for changes in the rules and practice of conventional international trade". With this definition, it is possible to immediately highlight two common points with the analysis conducted in this paper: the concern for better conditions for the workers as well as the involvement of the consumers in that process. Given these overlaps, it is logical to think that more conscious consumers will have a preference for fair trade products and that fair-trade sales are associated with higher consumer awareness.

The choice of coffee beans and not a different product is in line with Loureiro & Lotade (2005), who mention that it is the second most valuable commodity after petroleum in the global market and the fair-trade label product which is most sold. The amount of fair trade coffee beans sold in the Netherlands is used, rather than the amount sold worldwide, due to the availability of the data. In this way, the Netherlands is considered a proxy for ordinary consumers. A weakness of the use of this proxy is that not all countries in the sample are coffee producers and that the data available is only from the Netherlands, which might lead to bias in the results. However, at the same time, this weakness can also be considered a strength, as the fact that the amount of fair trade coffee beans sold in the Netherlands is independent from other variables, avoiding possible endogeneity problems. As fair-trade goods represent better working rights and, their consumption indicates that consumers are aware of its meaning and deliberately choose it to support the cause, it will be expected that the sales of fair trade coffee beans are positively related to labour

rights. This data is obtained from Dutch fair-trade certification organization Max Havelaar.

FDI: Kucera (2002) makes a clear distinction between horizontal and vertical FDI; Mosley & Uno (2007) use two forms of FDI: the FDI inflows and FDI stocks, as a way of evaluating both the new flows of FDI and the ones previously accumulated. For this analysis it is not relevant to make a distinction between horizontal and vertical FDI, since the goal is to analyse the role of consumer awareness and for this, it is not relevant to consider the reasons behind FDI (meaning vertical or horizontal), but the total FDI. Ideally this variable would indicate the FDI inflows in developing countries from western countries, however, due to the impossibility to obtain that data for all the countries across the specified timeline, it will indicate the overall FDI inflows. To have the possibility to make a distinction between the impact of new investments and the overall presence of FDI in a country (Mosley & Uno 2007), I will analyse the impact of FDI inflows as a percentage of GDP and, as a robustness, include FDI stocks as a percentage of GDP as an independent variable, repeat the initial analysis replacing FDI inflows by FDI stocks and lag FDI inflows over one and five years.

As analysed in the literature review, this variable can go in both directions, presenting either a positive or negative relationship with labour conditions and consequently mirroring a climb to the top or race to the bottom hypothesis. This data is obtained from the World Bank.

Control variables

GDP per capita: this variable indicates the gross domestic product per capita of a country and is largely used across the literature on trade and FDI; it is important in accounting for the size and/or level of development of a country. Regarding its expected result, Mosley & Uno (2007) defend that more industrialized, and consequently richer, developing countries are more prompt with inspections and consequently produce more reports on labour rights, leading to a negative relationship between labour rights and GDP per capita. This is the expected result in this model as well. Data on this variable is retrieved from the World Bank.

Unemployment: this variable can be considered as an indicator of the labour market situation in a country. It is also used by authors as Harrison & Scorse (2010) and the data is retrieved from the World Bank. This variable is expected to have a negative relationship with labour rights, since higher levels of unemployment would lead firms to engage in cheap labour practices and for workers to reduce pressure for better conditions. Additionally, due to the fact that there is some missing data for this variable, the absent values are obtained through linear interpolation.

Openness to trade: this data is obtained from the World Bank data and indicates the average of imports plus exports as a percentage of the GDP of a country. It is also largely used across the literature (Busse et al., 2011) and is important for understanding to which extent a country's openness to trade has an influence on its labour conditions. It has been highlighted that this measure of openness to trade can be considered imperfect due to the fact that it combines both natural openness to trade and trade policy (Neumayer & De Soysa, 2005). In this case, and similar to Neumayer's (2005) study, the differentiation on the determinants of the openness to trade is not relevant since what is important is the extent to which a country is open to trade and not the reasons behind it. The expected result for this variable is ambiguous: Mosley & Uno (2007) explain that trade openness could have positive impacts on labour rights, through the use of consumer pressures and trade sanctions. However, trade openness mostly forces countries to strongly compete with each other in a manner that consequently imposes a downward pressure on labour rights.

Freedom rating: this variable aggregates the political rights and civil liberties of a country. Though, in the literature some authors prefer to use a more specific indicator, such as whether the country is a democracy or not (Davies & Vadlamannati, 2013), for my analysis it is more adequate to use the freedom rating since it is more complete. This index presents values between one and seven: the smaller the number, the freer the country. This data can be obtained from Freedom House (www.freedomhouse.org). For this variable, it is expected that freer countries will have better labour rights, this being represented by a negative coefficient.

WTO membership: it is important to control for this variable as a country belonging to a trade organization may make it more prone to follow rules with respect to labour rights (Davies & Vadlamannati, 2013); WTO membership includes a commitment from

member countries to implement and keep important internationally recognized core labour standards, which include freedom of association, no forced labour, no child labour and no discrimination at work (WTO, n.a.). Given these commitments, a country belonging to the WTO may be more likely to adhere to higher labour standards and subsequently recognize more worker rights. However, similar to the dynamic observed regarding high GDP countries, these higher standards may produce more labour violations as such violations are more likely to be reported. This makes it impossible to predict the direction of the relationship between WTO membership and labour rights. Considering that the dataset under analysis includes data from 1985 and the WTO was only created in 1995, and to avoid bias, for the years before 1995 this variable will indicate whether a country signed the GATT agreement or not. This data is obtained for the WTO.

Table 1: Summary Statistics

	mean	sd	Min	max
LC	22.55031	7.560438	0	34.5
NGO	15.21103	24.00596	.1111111	232.9999
CB (MT)	2810.133	493.3841	1560	3300
Free	4.371419	1.629842	1	7
GDPcapita (current U.S. dollars)	1340.239	1521.015	94.27127	8629.102
Unemp (%)	9.283297	6.839576	.18	59.5
OpT (% of GDP)	64.15564	35.6459	11.08746	280.361
FDIstocks (% GDP)	18.19365	18.47782	.01	119.95
FDIinflows (% GDP)	1.93751	3.689622	-28.62426	46.4937
WTO	.717284	.4504586	0	1
N	1620			

While all the countries presented in the sample are categorized as developing countries, as observed in the summary statistics presented Table 1, there are still substantial variations across them. This is not surprising, since developing economies are not homogeneous. For example, the number of NGOs presents a minimum value of 0,1 and a maximum value of 233, indicating a substantial difference among countries. A value of 0,1 for the number of NGOs may seem strange, however, this is due to the fact that

data was collected for specific years and interpolated or extrapolated for the remaining years. Comparable situations occur for GDP per capita, unemployment rate, trade openness and FDI stocks, indicating a diverse range of values among the countries.

Table 2: Country analysis

Country	Average GDP per capita (current U.S. dollars)	Average unemployment (%)	Adherence to GATT/WTO	Average Trade openness (% of GDP)
Algeria	1942.772	25.45	-	52.00
Angola	563.7591	16.90	8 April 1994	118.97
Argentina	5791.782	11.29	11 October 1967	19.73
Bangladesh	322.1037	1.98	16 December 1972	23.28
Benin	356.127	0.79	12 September 1963	53.87
Bolivia	845.8249	8.56	8 September 1990	47.08
Botswana	2590.88	19.65	28 August 1987	96.45
Brazil	3350.493	6.55	30 July 1948	18.59
Burkina Faso	261.2072	2.55	3 May 1963	35.57
Burundi	178.2615	7.24	13 March 1965	31.24
Cambodia	299.8007	2.55	3 May 1963	83.54
Cameroon	877.1593	7.76	3 May 1963	42.95
Central African Republic	349.9402	-	3 May 1963	45.64
Chad	225.6197	-	12 July 1963	51.88
Chile	3681.752	7.16	16 March 1949	54.86
China	569.7033	2.71	11 December 2001	31.65
Colombia	1827.945	12.39	3 October 1981	35.26
Comoros	474.1194	19.95	-	56.35
Congo, Dem. Rep.	213.2544	-	27 March 1997	47.63
Congo, Rep.	896.192	-	3 May 1963	106.58
Costa Rica	2906.653	5.24	24 November 1990	75.08
Cote d'Ivoire	779.1349	22.60	31 December 1963	68.96
Djibouti	768.5869	53.83	16 December 1994	96.84
Dominican Republic	1790.052	16.40	19 May 1950	75.12
Ecuador	1799.462	8.71	21 January 1996	45.01
Egypt, Arab Rep.	940.532	9.16	9 May 1970	47.48
El Salvador	1465.045	8.76	22 May 1991	54.86
Eritrea	197.0892	-	-	92.22
Ethiopia	179.5967	6.62	-	89.10
Fiji	2070.617	6.74	16 November 1993	114.39
Gabon	4462.139	17.78	3 May 1963	91.30
Gambia, The	554.4541	-	23 October 1996	74.65
Ghana	374.2217	4.86	17 October 1957	61.36
Guatemala	1265.568	2.27	10 October 1991	43.92
Guinea	417.8666	4.55	8 December 1994	54.58
Guinea-Bissau	220.6315	-	17 March 1994	51.54
Guyana	721.2391	12.45	5 July 1966	190.87
Haiti	388.9762	11.25	1 January 1950	40.70
Honduras	807.3438	5.23	10 April 1994	79.92
India	368.1425	2.66	8 July 1948	19.96
Indonesia	761.5077	4.06	24 February 1950	51.27
Iran, Islamic Rep.	2123.077	11.47	-	33.95

Jamaica	2249.915	18.21	31 December 1963	101.33
Jordan	1581.84	14.98	11 April 2000	-
Kenya	368.1056	10.00	5 February 1964	54.22
Lao PDR	310.8657	2.60	2 February 2013	51.46
Lebanon	3546.776	8.62	-	73.49
Lesotho	419.2575	25.07	8 January 1988	-
Madagascar	253.5181	5.58	30 September 1963	46.63
Malawi	182.0345	-	28 August 1964	59.99
Malaysia	3220.701	4.54	24 October 1957	160.38
Mali	279.1757	3.10	11 January 1993	51.81
Mauritania	532.8074	22.45	30 September 1963	91.54
Mauritius	2931.665	6.38	2 September 1970	125.77
Mexico	4287.849	3.51	24 August 1986	43.41
Mongolia	837.8447	5.85	-	100.32
Morocco	1233.528	15.80	17 June 1987	50.50
Mozambique	233.0865	2.70	27 July 1992	49.66
Nepal	200.6213	5.05	23 April 2004	45.01
Nicaragua	731.8406	10.46	28 May 1950	57.81
Niger	224.7889	3.28	31 December 1963	40.41
Nigeria	292.2857	3.94	18 November 1960	55.51
Oman	6466.087	17.27	9 November 2000	78.38
Pakistan	434.3624	4.74	30 July 1948	34.78
Panama	3346.752	13.71	6 September 1997	127.06
Papua New Guinea	811.1704	5.31	16 December 1994	100.77
Paraguay	1450.954	6.13	6 January 1994	93.85
Peru	1622.68	7.79	7 October 1951	31.76
Philippines	857.0306	8.35	27 December 1979	73.76
Rwanda	267.0045	0.64	1 January 1966	30.79
Senegal	595.5228	5.65	27 September 1963	58.49
Sierra Leone	190.0269	-	19 May 1961	45.77
South Africa	3086.324	16.20	13 June 1948	45.38
Sudan	454.7204	12.61	-	18.49
Sri Lanka	626.4854	11.41	29 July 1948	77.33
Swaziland	1283.809	21.65	8 February 1993	146.48
Syrian Arab Republic	1030.984	8.48	-	59.31
Tanzania	228.0799	3.40	9 December 1961	47.47
Thailand	1833.094	2.44	20 November 1982	85.19
Togo	328.1831	-	20 March 1964	79.56
Trinidad and Tobago	4788.128	16.12	23 October 1962	82.14
Tunisia	1789.318	15.19	29 August 1990	83.68
Turkey	2831.791	8.17	17 October 1951	38.40
Uganda	261.0138	1.79	23 October 1962	30.68
Uruguay	4666.225	10.39	6 December 1953	39.73
Venezuela, RB	3265.748	10.78	31 August 1990	49.56
Vietnam	297.5386	2.37	11 January 2007	75.77
Yemen, Rep.	430.8849	9.90	26 June 2014	61.69
Zambia	382.3292	15.22	10 February 1982	60.82
Zimbabwe	670.6653	9.74	11 July 1948	62.25

Table 2, provides additional information about the countries under analysis. This information allows for a better understanding of the results but also provides some benchmark values for comparisons. For example, examine the variable that indicates membership to the GATT/WTO. As this is a dummy variable included in the sample, its

summary statistics are not relevant, however, this extra information allows us to understand that, for the period under analysis, the large majority of countries belong to a trade organization.

Finally, a correlation matrix of the variables is presented in Appendix C. A close check of this matrix does not indicate any risky cases of correlation. The highest values for correlation are around 0.5, between the number of FDI inflows and FDI stocks and between the FDI stocks and trade openness. These results are not surprising, since it FDI inflows and stocks obviously have a close relationship both between themselves but also with trade openness.

5. Empirical results

5.1. Analysis of the results

This study models the relationship between FDI and labour conditions in developing countries, focusing on the role consumer awareness might have on this relationship. Given that this study analyses a panel with 90 countries over a period of 18 years, it relies on a panel data analysis. The combination of data provides a strongly balanced panel. To decide which model to use, either a fixed effects model or a random effects model, I make use of a Hausman test, which tests the null hypothesis of no correlation between the explanatory variables and the specific errors. The Hausman tests for the models with the use of different variables can be found on the Appendix D and Appendix E.

5.1.1. NGOs as a proxy for consumer awareness

When using the number of international humanitarian NGOs as a proxy for consumers awareness, the Hausman test indicates that the null hypothesis is rejected, and therefore the fixed effects model should be used. Heteroskedasticity is tested using a modified Wald test, where the presence of heteroskedasticity is revealed. A Wooldridge test for autocorrelation is also performed, indicating the presence of autocorrelation. All these tests can be found on Appendix D. Given the presence of both heteroskedasticity and autocorrelation, I make use of a robust fixed effect model, with clustered standard errors so that both heteroskedasticity and autocorrelation are not problematic (Stock &

Watson, 2008). Additionally, the number of NGOs and GDP per capita are taken as a natural logarithm for the ease of interpretation and the terms of the interaction variable are centered (Williams, R., 2015).

Table 3: Estimation results using NGOs as a proxy for consumer awareness

	(1) LC	(2) LC	(3) LC	(4) LC	(5) LC	(6) LC
NGOinf	-0.0346	-0.0153	-0.0286	-0.00382	0.00540	0.00230
	(-0.69)	(-0.36)	(-0.73)	(-0.09)	(0.12)	(0.06)
cNGO	-0.865*	-0.909*	-0.785*	-0.724*	-0.788*	-0.721
	(-2.27)	(-2.40)	(-2.25)	(-2.03)	(-2.15)	(-1.96)
cFDIinflows	-0.171**	-0.144**	-0.112*	-0.0155	-0.0266	-0.0163
	(-2.95)	(-2.81)	(-2.31)	(-0.28)	(-0.45)	(-0.31)
lnGDPcapita		-2.439*	-1.599	-1.920	-2.180*	-1.849
		(-2.38)	(-1.59)	(-1.86)	(-2.26)	(-1.92)
Unemp			-1.420***	-1.271***	-1.368***	-1.251***
			(-6.79)	(-5.90)	(-6.96)	(-6.48)
OpT				-0.0422*	-0.0538**	-0.0482*
				(-2.33)	(-2.83)	(-2.45)
Free					-1.210***	-1.266***
					(-3.89)	(-4.12)
WTO						-2.525**
						(-2.68)
Constant	22.40***	38.65***	46.16***	49.67***	58.19***	56.71***
	(4225.89)	(5.67)	(7.18)	(7.28)	(9.14)	(9.12)
Observations	1531	1531	1531	1460	1424	1424

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; NGOinf: interaction term between the natural logarithm of number of NGOs and FDI inflows; cNGO: natural logarithm of the number of NGOs, centered; cFDI inflows: FDI inflows as a percentage of GDP, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade.

Table 3 provides models 1, 2, 3, 4, 5, and 6, with model 1 being the simplest version, including only the key independent variable, the interaction term and the elements of the

interaction, cNGO and cFDI inflows. The next models represent the same relationship but gradually adding the control variables, so that it is possible to understand the impact of each of them.

In model 1, it is observed that the key independent variable presents a negative sign but is not significant, immediately revealing that, when using FDI as a channel, NGOs are not relevant for labour conditions. cNGO has a negative coefficient in all models and only loses its significance in model 6, where the WTO is added. When looking to the t value, we observe that its loss of significance is actually not huge, considering the previous value and the fact that it is on the edge of the rejection threshold, with a value of -1.96. This result, even though different than initially expected, can be explained due to the fact that NGOs will be more present in countries which have more worker's rights problems. cFDIinflows presents a negative coefficient in all models, only losing its significance with the introduction of openness to trade; given that these two variables are correlated, this is probably the reason it loses its significance. This possibility is verified and presented Appendix F, where it is observed that when removing OpT from model 6, cFDIinflows regains its significance, without causing other major changes to the remaining variables. As observed in the literature review, the relationship between FDI and labour conditions can go both in a positive or negative direction. In this case, it presents a negative relationship, going according to the race to the bottom hypothesis.

Models 2, 3, 4, 5 and 6 represent the same relationship when adding additional controls to the model. Generally, what is observed is that the key independent variable continues to be insignificant and decreases its coefficient, indicating that consumer awareness through FDI decreases even more its power when other factors are taken into account. The same happens with cNGO and cFDIinflows: as controls are added to the model, their significance is decreased, indicating that there are other important factors shaping the relationship between labour conditions and FDI.

GDPcapita starts with a significant and negative coefficient in model 2, indicating that richer countries have lower working conditions. This is explained by Mosley & Uno (2007), when indicating that richer countries are more prone to inspections and consequently produce more reports. However, when adding other controls to the model, GDPcapita keeps its negative sign but loses its significance, indicating a low explanatory power for labour conditions.

Unemp, is significant and presents a negative coefficient in all the models where it is included, indicating a negative relationship with labour conditions. This outcome is in accordance with expectations. This result can be explained by the fact that countries where unemployment is low allow workers to negotiate for better conditions and not settle for unworthy work, forcing employers to better fulfil their requirements.

OpT starts as a significant variable with a negative coefficient in model 4 and remains without major changes when introducing other controls to the model. This result is explained using an argument from Mosley & Uno (2007), which states that more open countries tend to compete between themselves, thus lowering labour standards.

Free, the freedom index, presents a minimum value of 1 for free countries and a maximum of 7 for the least free countries. It is highly significant and presents a negative coefficient in both 5 and 6 models, indicating a negative relationship with labour rights. This means that a higher value of labour rights is associated with a lower value for the freedom index, indicating a freer country. This result is understandable: Mosley & Uno (2007) evaluate labour rights mainly in terms of legal rights of workers, such as freedom of association and collective bargaining, and these are characteristics that tend to be lower in less free countries.

WTO is a significant variable with a negative coefficient, indicating a negative relationship with labour rights. This can be explained with the fact the WTO membership includes a commitment from the member countries to implement and keep important internationally recognized core labour standards, which includes freedom of association, no forced labour, no child labour and no discrimination at work (WTO, 2018). Once again, those countries who belong to WTO will produce more reports on labour rights than the ones who do not, explaining the negative relation with labour rights.

5.1.2. Fair trade coffee beans sales as a proxy for consumer awareness

When using the sales of fair trade coffee beans as a proxy for consumer awareness, the Hausman test indicates that the null hypothesis is rejected and therefore the fixed effects model should be used. Heteroskedasticity is tested using a modified Wald test where the presence of heteroskedasticity is revealed. A Wooldridge test for autocorrelation is also performed, indicating the presence of autocorrelation. All these tests can be found on Appendix E. Given the presence of both heteroskedasticity and

autocorrelation, once again, I make use of a robust fixed effect model, with clustered errors so that both heteroskedasticity and autocorrelation are not problematic (Stock & Watson, 2008).

Table 4: Estimation results using fair trade coffee beans sales as a proxy for consumer awareness

	(1) LC	(2) LC	(3) LC	(4) LC	(5) LC	(6) LC
CBinf	-0.364	-0.392	-0.311	-0.109	0.0195	0.0759
	(-0.70)	(-0.75)	(-0.59)	(-0.21)	(0.03)	(0.14)
cCB	-6.244***	-6.426***	-5.582***	-5.645***	-5.986***	-5.678***
	(-5.61)	(-5.40)	(-4.62)	(-4.59)	(-5.26)	(-4.96)
cFDIinflows	0.00419	0.00605	0.00319	0.0156	-0.00459	-0.00470
	(0.09)	(0.12)	(0.06)	(0.30)	(-0.08)	(-0.09)
lnGDPcapita		0.466	0.628	0.462	0.360	0.388
		(0.58)	(0.77)	(0.55)	(0.45)	(0.48)
Unemp			-0.558***	-0.528**	-0.592***	-0.586***
			(-3.50)	(-3.17)	(-3.49)	(-3.45)
OpT				0.00108	-0.00758	-0.00691
				(0.07)	(-0.46)	(-0.41)
Free					-1.154***	-1.172***
					(-3.90)	(-3.99)
WTO						-0.842
						(-0.92)
Constant	21.74***	18.62***	22.74***	23.48***	30.14***	30.59***
	(858.54)	(3.45)	(4.30)	(4.21)	(5.40)	(5.55)
Observations	1297	1297	1297	1239	1209	1209

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; CBinf: interaction term between the natural logarithm of the sales of fair trade coffee beans and the FDI inflows; cCB: natural logarithm of the sales fair trade coffee beans, centered; cFDI inflows: FDI inflows as a percentage of GDP, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade.

Table 4 provides models 1, 2, 3, 4, 5, and 6, with model 1 being the simplest version, including only the key independent variable, the interaction term, and the elements of the interaction, cCB and cFDI inflows; the subsequent models represent the same relationship but gradually adding the control variables.

The key independent variable, the interaction term between fair trade coffee beans sales and FDI inflows, is insignificant in all models; it starts by having a negative signal, changing to positive only when introducing the freedom index as a control variable. From models 1 to 6, the coefficient of the key independent variable increases and loses significance, gradually changing its sign. Once again, this is an indicator that, as other factors are taken into account, consumer awareness loses even more influence on labour conditions through FDI. This mirrors the outcomes found when using NGOs as a proxy for consumer awareness, giving assurance to the model and strengthening the idea that consumer awareness does not have the power to moderate the relationship between FDI and labour conditions.

Sales of fair trade coffee beans are highly significant and present a negative sign, slightly reducing the power of its coefficient across the models. This indicates that a higher amount of fair trade coffee beans is associated with lower labour rights, a result that contradicts expectations. There are several possible explanations for these findings. First, it could be that this variable simply does not function as an adequate proxy. Second, it is also possible that fair trade certifications do not always have a positive impact on labour conditions, as is argued by Valkila (2009). The reasoning behind this is that there are costs associated: it forces farmers to produce smaller quantities and at the same time replace inorganic fertilizers with manual labour, which requires extra wage costs. Another possible explanation is the fact that, as with the case of NGOs, fair trade organizations will be more present where labour conditions were initially bad. This would explain the negative relationship between the amount of fair trade coffee beans and labour conditions.

In these models, FDI inflows are always insignificant. While this variable starts with a small but positive coefficient, it gradually decreases until the value becomes negative in models 5 and 6 when Free and WTO are added. While in model 1 the results might differ between the model with the use of NGOs and CB as a proxy for consumer awareness, in the final version with all the controls added, the results of both versions of the model are very similar. Once again, as showed in the literature review, the negative signal of FDI inflows indicates concordance with the race to the bottom hypothesis but,

that fact that the variable is insignificant indicates that FDI inflows do not have the power to directly affect labour conditions.

In this version of the model, GDP per capita, unemployment rate and freedom index present a similar result as when using NGOs as a proxy for consumer awareness.

Additionally, OpT and WTO lose their significance, when comparing to the version of the models using NGOs as proxy for consumer awareness. A possible explanation for this result, is that as the amount of fair trade coffee bean sold is included, and this is more connected to international trade, it will absorb all the effects on labour conditions, so that other variables become irrelevant.

5.2. Robustness checks

In order to strengthen the results presented in the previous sections and control eventual pitfalls, some robustness checks are conducted.

FDI stocks are an indicator of the overall presence of FDI in a country (Mosley & Uno, 2007). Given the aim of this model, that is, to understand how consumer awareness moderates the effect of FDI on labour standards, it is important to see if FDI stocks, and not only FDI inflows, are also important to this relationship. For investigate this, FDI stocks were included in both versions of the model, as a control variable.

Table 5: Models including FDI stocks as control variable

	(1) LC	(2) LC
NGOinf	-0.0310	
	(-0.64)	
CBinf		0.235
		(0.39)
cNGO	-0.872*	
	(-2.37)	
cCB		-5.289***
		(-4.36)
cFDIinflows	0.0676	0.0509
	(1.40)	(0.97)
lnGDPcapita	-1.737	0.543
	(-1.70)	(0.62)
Unemp	-1.101***	-0.509**

	(-5.54)	(-2.94)
OpT	-0.0353	0.00196
	(-1.77)	(0.11)
Free	-1.353***	-1.247***
	(-4.08)	(-4.03)
WTO	-2.095*	-0.603
	(-2.16)	(-0.63)
FDIstocks	-0.0660**	-0.0527*
	(-2.91)	(-2.54)
Constant	54.93***	29.29***
	(8.27)	(5.02)
Observations	1407	1195

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; ; NGOinf: interaction term between the natural logarithm of number of NGOs and FDI inflows; CBinf: interaction term between the natural logarithm of the sales of fair trade coffee beans and the FDI inflows; cNGO: natural logarithm of the number of NGOs; cCB: natural logarithm of the sales fair trade coffee beans, centered; cFDI inflows: FDI inflows as a percentage of GDP, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade; FDIstocks: FDI stocks as a percentage of GDP.

The results presented in Table 5 indicate that in both models, either considering NGOs or CB as a proxy for consumer awareness, FDI stocks are significant and have a negative coefficient. This result indicates that these stocks also play a role on influencing labour conditions. There is also a noticeable change in the coefficient of the key independent variable, however, it remains insignificant.

Given the significance of FDI stocks when included in the model as a control variable, an additional robustness check becomes even more necessary. This procedure consists of replacing FDI inflows by FDI stocks.

Table 6: Estimation results when replacing FDI inflows by FDI stocks

	(1) LC	(2) LC
NGOsto	-0.000912	
	(-0.06)	
CBsto		0.00270

		(0.03)
cNGO	-0.818*	
	(-2.17)	
cCB		-5.221***
		(-4.33)
cFDIstocks	-0.0597*	-0.0487*
	(-2.37)	(-2.19)
lnGDPcapita	-1.753	0.531
	(-1.79)	(0.64)
Unemp	-1.125***	-0.530**
	(-5.97)	(-3.17)
OpT	-0.0298	0.00801
	(-1.53)	(0.48)
Free	-1.343***	-1.189***
	(-4.03)	(-3.83)
WTO	-2.175*	-0.679
	(-2.13)	(-0.68)
Constant	53.76***	28.12***
	(8.10)	(4.94)
Observations	1432	1218

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; ; NGOinf: interaction term between the natural logarithm of number of NGOs and FDI stocks; CBinf: interaction term between the natural logarithm of the sales of fair trade coffee beans and the FDI stocks; cNGO: natural logarithm of the number of NGOs; cCB: natural logarithm of the sales fair trade coffee beans, centered; cFDI stocks: FDI stocks as a percentage of GDP, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade.

Table 6 presents the estimated results when FDI inflows are replaced by FDI stocks. Model 1 stands for the use of NGOs as a proxy and model 2 for the use of CB as a proxy. The coefficient of the key independent variable is negative when using NGOs and positive when using CB, and it is insignificant in both cases. From here, we understand that using either FDI socks or FDI inflows does not have an interference of the significance of the interaction term. These results once again reinforce the idea that consumer awareness cannot moderate the effect of FDI on labour conditions.

In these models, both cNGOs and cCB are negative and significant, also reinforcing the idea of a negative relationship with labour conditions, for the reasons previously mentioned. In the previous model, which modelled the interaction using FDI inflows, cNGOs was on the cusp of insignificance. However, in this model, this variable is clearly significant, revealing a more important role in moderating labour conditions. Whereas in the main model FDI inflows were not significant, in this model FDI stocks are significant; those are also negative, supporting once again the race to the bottom hypothesis. These discrepancies could be explained by the nuanced differences between FDI stocks and FDI inflows. FDI inflows are a representation of new investments in a country (Mosley & Uno, 2007) and consequently do not give direct information about the previous years, while stocks, implicitly, already acknowledge FDI from previous years. This explanation applies considering that changes in both FDI and labour conditions are not immediate and take time to be implemented.

Regarding the other control variables involved in the models, there are no major changes to report. In sum, what can be taken from this robustness check is that even though the use of FDI stocks in the place of FDI inflows does not alter the result of the interaction term, it reveals the significance of stocks and opens the possibility of a relationship between labour conditions and FDI in previous years.

To account for the possibility of past FDI influencing the current labour conditions, an additional robustness test is performed: the FDI inflows variable is lagged on both one and five years.

Table 7: Estimation results including one-year lag on FDI inflows

	(1) LC	(2) LC
FDINGOlag1	-0.0492 (-1.38)	
FDICBlag1		-0.502 (-1.03)
cNGO	-0.756* (-2.08)	
cCB		-6.042*** (-4.99)
cFDIlag1	-0.120* (-2.18)	-0.0660 (-0.94)

lnGDPcapita	-1.922*	0.544
	(-2.03)	(0.63)
Unemp	-1.234***	-0.625***
	(-6.62)	(-3.98)
OpT	-0.0422*	0.0000908
	(-2.22)	(0.01)
Free	-1.220***	-1.090***
	(-4.06)	(-3.61)
WTO	-2.340*	-0.521
	(-2.62)	(-0.62)
Constant	56.30***	28.90***
	(9.08)	(5.10)
Observations	1415	1199

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; FDINGOlag1: interaction term between FDI inflows and the natural logarithm of number of NGOs with a one-year lag; FDICBlag1: interaction term between FDI inflows and the natural logarithm of the sales of fair trade coffee coffee beans with a one-year lag; cNGO: natural logarithm of the number of NGOs; cCB: natural logarithm of the sales fair trade coffee beans, centered; cFDIlag1: FDI inflows with a one-year lag, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade.

Table 7 provides the estimated results when considering FDI inflows with one-year lag. Model 1 uses NGOs as a proxy for consumer awareness, while model 2 uses CB. The results show that with a one-year lag on FDI inflows, the interaction term in both models still insignificant; the lagged FDI inflows are negative in both models but only significant in model 1. This indicates that that FDI inflows from the past year might be negatively connected to labour conditions in the present.

Given that one year is a short period, one last robustness check is done using a 5-year lag on FDI inflows.

Table 8: Estimation results including five-years lag on FDI inflows

	(1) LC	(2) LC
FDINGOlag5	-0.0399	
	(-1.26)	
FDICBlag5		0.186
		(0.96)
cNGO	-0.692	
	(-1.83)	
cCB		-5.753***
		(-5.11)
cFDIlag5	0.0240	-0.0916
	(0.42)	(-1.59)
lnGDPcapita	-1.917	0.496
	(-1.98)	(0.59)
Unemp	-1.333***	-0.685***
	(-6.83)	(-4.08)
OpT	-0.0548**	-0.0124
	(-2.91)	(-0.79)
Free	-1.280***	-1.132***
	(-4.29)	(-3.91)
WTO	-2.230*	-0.213
	(-2.58)	(-0.25)
Constant	58.18***	30.36***
	(9.56)	(5.53)
Observations	1383	1165

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

LC: Labour rights index; FDINGOlag5: interaction term between FDI inflows and the natural logarithm of number of NGOs with a five-year lag; FDICBlag5: interaction term between FDI inflows and the natural logarithm of the sales of fair trade coffee beans with a five-year lag; cNGO: natural logarithm of the number of NGOs; cCB: natural logarithm of the sales fair trade coffee beans, centered; cFDIlag5: FDI inflows with a five-year lag, centered; lnGDPcapita: natural logarithm of GDP per capita; Unemp: unemployment rate (interpolated values); OpT: openness to trade; Free: freedom index; WTO: dummy variable indicating the membership to the World Trade Organization/ General Agreement on Tariffs and Trade.

Table 8 provides the estimated results when using FDI inflows with a five-year lag. Once again, model 1 uses NGOs as proxy and model 2 uses CB. It is confirmed that

the interaction term continues to be insignificant. In this case even the FDI lagged for 5 years becomes insignificant in both models.

Overall, the robustness tests confirm the results from the main model, and offer an even more clear refutation of hypothesis 1: an increase in consumer awareness in importing countries will not have a positive moderating effect on the impact of FDI on labour conditions in exporting countries, since it is observed that, in any case, the key independent variable under analysis is insignificant.

6. Summary and Conclusions

This paper analysed how public awareness about labour conditions among consumers moderates the effect of FDI on labour standards in developing countries. The hypothesis presented was that an increase in consumer awareness in importing countries will have a positive moderating effect on the impact of FDI on labour conditions in exporting countries.

It began with an analysis of relevant literature, with an emphasis on the role of consumers in this relationship. It critically assessed a theoretical model created by Elliott & Freeman (2011) which attempted to explain how anti-sweatshop campaigns could influence the labour conditions under which goods are produced on the apparel industry. It empirically tested the hypothesis that an increase in consumer awareness in importing countries will have a positive moderating effect on the impact of FDI on labour conditions in exporting countries. To examine this question, this study employed a panel data analysis, specifically a fixed effect model, which included a sample of 90 developing countries for a period between 1985 and 2002.

Analysing the relevant literature along with the model produced by Elliott & Freeman (2001) revealed different things. It is apparent that consumer awareness can interfere in the relationship between FDI and labour standards. However, when analysing the empirical results from our model main estimations the relationship appears more ambiguous, immediately resembling the bag of mixed results presented in Mosley & Uno (2007) study.

Consumer awareness is a broad term, and quantifying it as a variable is difficult. However, though the use of proxies it is possible to create a rough measurement of this element. Still, it is important to be critical of the strengths and weaknesses of each proxy. Some of the proxies turn out to be inadequate due to the unavailability of data, as was the case with the number of inspections to the working place or, the number of scientific papers written about the topic of labour conditions and FDI. The two possibilities left, and the ones which were used, were the number of international Humanitarian NGOs present in developing countries and the amount of fair trade coffee beans sold in Netherlands. These proxies relate to consumer awareness in the sense that they suggest the amount of information shared between producers and consumers. As more information becomes available to consumers, the more likely they are to make thoughtful

decisions. Arguably, this is the case with fair trade coffee sales. Yet, even this connection is only an approximation, meaning there is still a possibility that these proxies will lead to biased results. Taking these risk into account, the estimated results from the fixed effects models using both of these proxies are generally consistent, presenting only minor differences, indicating then that the models are coherent. The key independent variable, the interaction term between consumer awareness and FDI inflows is always insignificant, indicating the impossibility of consumer awareness to moderate the relationship between FDI and labour conditions. Given these results, the main hypothesis is rejected. Thus, an increase in consumer awareness about labour conditions does not have a positive moderating effect on the impact of FDI on labour conditions in developing countries. There are several possible explanations for this result. These findings may suggest that our model is inappropriate for this study or overly simplistic. For instance, there may be omitted variables or variables that are difficult to control for. Since different authors include different controls in their models, and given the impossibility of include all of them, a selection had to be made. There is also the fact the there is a long chain going on between FDI investors, workers and their labour conditions and consumers, making it difficult for consumers to interfere and obtain immediate results.

A detailed examination into the presence of international humanitarian NGOs reveals more complications. The presence of these NGOs can be explained by numerous reasons that have nothing to do with labour conditions. Consequently, it is obvious why they seem not to interfere in the relationship between FDI and labour conditions. Additionally, it is worth noticing that the measure for the labour conditions itself, while extremely complete, measures the rights of workers. This covers topics such as the power of bargaining and right to strike and not issues related to salaries, leaves or even physical working conditions. These could eventually be more directly related to problems that consumers and even NGOs care about such.

Turning to the amount of fair trade coffee beans sold in Netherlands, their interaction with FDI inflows is not significant. Once again, this is an indication that the FDI channel might not be the one with the most impact. However, the sales of fair trade coffee beans themselves are highly significant. This interesting result could indicate n that whereas through FDI consumers are not able to have a role, by opting for this type of products themselves, it might be possible to have an influence. This negative relationship merits closer consideration. For one, it is a very specific proxy. Additionally,

the findings seem to reaffirm Valkila (2009) who argues that labour conditions in fair trade organic coffee production are not always superior to regular farms. In fact, sometimes they are worse. However, as this is a simplistic model, it is not possible to completely understand the reasons for this negative relationship.

In terms of FDI, the question of whether to include FDI inflows or FDI stocks, or both, was raised. The crucial difference here is that FDI inflows represent the new inflows in a country and FDI stocks represents the overall presence of FDI in a country (Mosley & Uno, 2007). This question was tested with robustness checks, where it was verified that FDI stocks, while significant, do not produce considerable changes in the results when replacing FDI inflows. The FDI variable lagged for both one and five years was also shown to be mostly insignificant. These additional verifications strengthened the model and fortified the conclusion that FDI is not a channel through which consumers can have an impact in labour conditions.

Given these results and conclusions, further research is necessary. It could be interesting to analyse if consumer awareness could have an impact through other channels than FDI. An example would be directly through exports, measuring if there is a change in the amount of products sent to importing countries. It could also be fruitful to consider specific products which are more closely associated with poor labour conditions. For instance, the apparel industry could merit a specific study. It could also be useful to develop more robust proxies to measure consumer awareness of labour conditions. Such proxies would be useful in developing more accurate models. Additionally, it could be equally relevant to make a similar analysis using a more practical variable as a dependent variable, such as wages or physical working conditions. This way, a comparative evaluation would allow one to understand what type of labour conditions consumer awareness might have an impact on.

Furthermore, it could be illuminating to conduct similar studies in different contexts. Examining these relationships within the context of developed economies or within specific countries could provide a greater understanding of how specific communication channels can have an influence on labour conditions.

Lastly, this paper highlights a topic that is still not given much attention in scientific literature. It demonstrates how consumers could theoretically have a role in influencing the labour conditions under which goods are produced. It also suggests various channels through which this influence could be exerted. While some of the results did not conform

to expectations, these findings nevertheless highlight important areas for further research in the topic of consumer awareness and its role in dictating labour conditions.

7. Appendix

Appendix A

Variables definition

Variable	Definition	Source
LR	Mosley & Uno measure of collective labour rights. Higher scores indicate better labour rights outcomes.	Mosley & Uno, 2007
NGO	Human Rights Non-Governmental Organizations: total number of human rights NGOs involved in a country (internally) in a given year, from Human Rights Internet's Master List of organizations. Data are collected for 1986, 1991, 1994 and 2000 (years in the sample for which the Master List is available); intervening years are interpolated; data for 2001 and 2002 are extrapolated. Variable is transformed as a natural logarithm.	Mosley & Uno, 2007
CF	Indicates the amount of fair trade coffee beans sold in the Netherlands.	Dutch fairtrade certification organization Max Havelaar
FDI inflows	Indicates foreign direct investment inflows in an economy, as a percentage of GDP.	World Bank data
lnGDPcapita	GDP per capita is gross domestic product divided by midyear population. The variable is transformed as a natural logarithm.	World Bank data
Unemp	Unemployment: refers to the share of the labour force that is without work but available for and seeking employment.	World Bank Data
OpT	Trade openness: is the sum of exports and imports of goods and services measured as a share of gross domestic product.	World Bank data

Free	Freedom index: this variable includes an aggregation of the political rights and civil liberties of a country. It is measured on a one-to-seven scale, with one representing the highest degree of Freedom and seven the lowest.	Freedomhouse.org
WTO	World Trade Organization: indicates whether a country belongs to World Trade Organization in a given year, or signed the GATT agreement (for years before 1995).	WTO.org
FDI stocks	Indicates foreign direct investment stocks in an economy, as a percentage of GDP.	World Bank data

Appendix B

List of developing countries under analysis

Algeria	Congo, Rep.	Honduras	Mozambique	Syrian Arab Republic
Angola	Costa Rica	India	Nepal	Tanzania
Argentina	Cote d'Ivoire	Indonesia	Nicaragua	Thailand
Bangladesh	Djibouti	Iran, Islamic Rep.	Niger	Togo
Benin	Dominican Republic	Jamaica	Nigeria	Trinidad and Tobago
Bolivia	Ecuador	Jordan	Oman	Tunisia
Botswana	Egypt, Arab Rep.	Kenya	Pakistan	Turkey
Brazil	El Salvador	Lao PDR	Panama	Uganda
Burkina Faso	Eritrea	Lebanon	Papua New Guinea	Uruguay
Burundi	Ethiopia	Lesotho	Paraguay	Venezuela, RB
Cambodia	Fiji	Madagascar	Peru	Vietnam
Cameroon	Gabon	Malawi	Philippines	Yemen, Rep.
Central African Republic	Gambia, The	Malaysia	Rwanda	Zambia
Chad	Ghana	Mali	Senegal	Zimbabwe
Chile	Guatemala	Mauritania	Sierra Leone	
China	Guinea	Mauritius	South Africa	
Colombia	Guinea-Bissau	Mexico	Sudan	
Comoros	Guyana	Mongolia	Sri Lanka	
Congo, Dem. Rep.	Haiti	Morocco	Swaziland	

Appendix C

Correlation matrix

	LC	lnNGO	lnCB	Free	lnGDPcapita	OpT	FDI inflows %	FDI stocks %	Unemp	WTO
LC	1									
lnNGO	-0.314***	1								
lnCB	-0.161***	0.104***	1							
Free	-0.138***	-0.237***	-0.0656*	1						
lnGDP capita	-0.229***	0.213***	0.0499	-0.436***	1					
OpT	0.0469	-0.218***	0.104***	-0.157***	0.210***	1				
FDI inflows	0.00679	-0.0249	0.174***	-0.0872**	0.0647*	0.397***	1			
FDI stocks	-0.00806	-0.115***	0.218***	-0.168***	0.215***	**0.542*** **	**0.557*** **	1		
Unemp	-0.109***	-0.00799	**0.469*** **	-0.0519	0.0447	0.0573*	0.0918**	0.162***	1	
WTO	0.00478	0.245***	0.174***	-0.328***	0.0954***	-0.000047	0.0197	0.119***	0.0883**	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix D

T*ests using NGO as a proxy* for consumer awareness and interaction term with FDI inflows

```
. hausman fixed random, sigmamore
```

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
NGOinf	.0023048	.0018536	.0004511	.0065419
cNGO	-.720503	-.9862142	.2657112	.0656281
cFDIinflows	-.0163176	-.0361312	.0198136	.0109098
lnGDPcapita	-1.849344	-1.874017	.0246735	.3447222
Unempi	-1.251428	-1.313977	.0625491	.0429504
OpT	-.048166	-.0298607	-.0183053	.0053078
Free	-1.266209	-1.301261	.0350513	.062076
WTO1	-2.52523	-2.221718	-.3035118	.2207137

```
                b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       33.62
                Prob>chi2 =      0.0000



Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (85)  =    5993.65
Prob>chi2 =      0.0000

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,      84) =     44.455
           Prob > F =      0.0000
```

Appendix E

Tests using fair trade coffee beans sales as proxy for consumer awareness and interaction term with FDI inflows

```
. hausman fixed random, sigmamore
```

	Coefficients (b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
CBinf	.0759188	.1681023	-.0921835	.0400006
cCB	-5.678109	-5.222072	-.4560369	.2236682
cFDIinflows	-.0047037	-.0087834	.0040797	.0084546
lnGDPcapita	.388403	-.964321	1.352724	.4162562
Unempi	-.5863905	-.5247157	-.0616748	.0216957
OpT	-.0069116	-.0033712	-.0035405	.0059384
Free	-1.17204	-1.118053	-.0539874	.0673665
WTO1	-.8424846	-.8177349	-.0247496	.2140573

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       17.89
                Prob>chi2 =      0.0221


Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (85)  =    8901.60
Prob>chi2 =      0.0000


Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,      84) =     24.281
           Prob > F =      0.0000

.
end of do-file
```

Appendix F

Estimations results without OpT as a control variable

	(1) LC	(2) LC
NGOinf	-0.0240	
	(-0.65)	
CBinf		-0.192
		(-0.35)
cNGO	-0.768*	
	(-2.14)	
cCB		-5.890***
		(-5.03)
cFDIinflows	-0.118*	-0.0235
	(-2.49)	(-0.45)
lnGDPcapita	-1.457	0.651
	(-1.55)	(0.82)
Unempi	-1.395***	-0.613***
	(-6.97)	(-3.78)
Free	-1.120***	-1.063***
	(-3.60)	(-3.75)
WTO1	-2.768**	-0.711
	(-3.33)	(-0.82)
Constant	51.84***	28.09***
	(9.00)	(5.35)
Observations	1495	1267

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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