Fairness, Consumer Consciousness and the Welfare of Less Developed Countries

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1 Introduction

As Freeman (pg. 80, 1994) says: "Everyone, or nearly everyone, wants *some* labour standards". For example, no one (these days) defends or advocates slavery. For other labour standards, such unanimity is lacking. Think for instance of such issues as convict labour, child labour, minimum wages, trade union freedom, or occupational safety and health. One may begin an economic analysis of labour standards by inquiring into what consumers would pay extra for regarding products made under "decent" working conditions. Consider two pairs of tennis shoes identical in every respect but the labour practices under which they were manufactured. Starting from the same level and raising the price of the shoes made under better conditions by 50 cents, 1 euro, 2 euros, etc., answer the question: which pair would you buy? The additional amount consumers are disposed to pay would give us the *demand curve for labour standards*.

This paper proposes a partial equilibrium model where consumers have a demand for standards and non-governmental organizations (NGOs), activist organizations, interest groups, unions and media reveal information about labour standards to consumers. The purpose is to study the effect of an increase in the fraction of informed inequity-averse consumers (from now on activism) on the behaviour of multinational firms, on the equilibrium level of labour standards and on the welfare of the less developed countries (LDCs).

Key in this model is the idea of fairness, capturing the desire to reduce the degree of inequality induced by different labour practices. The point is that if demand for labour standards is grounded in consumer preferences, then a positive analysis of standards must begin with these preferences. To support this type of preferences we ask for evidence that people will pay at least a modest premium for the shoes made under better working conditions.

An initial contribution comes from consumer surveys showing that Americans are willing to pay more for products manufactured under decent labour conditions and try to avoid products tarred by inadequate standards (Marymount University 1999, the University of Maryland 2000, Freeman 1998 and Haq 1996). A second contribution comes from empirical studies. Rock (2001) uses the event study technique to assess the impact of public disclosure of firms' sweatshop practices on their stock prices. He finds that public disclosure does indeed cause firms stock prices to fall.[1] Other results document that fairness concerns

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[1] The thesis is that anti-sweatshop activists publicize information on large firms producing well-known brands prompting consumers to act on their latent demand by refraining from buying these firms' products, and thus reducing sales and profits. So if stock markets convey information rapidly, public disclosure campaigns should contribute to declines in firms publicly traded stock prices.

affect labour relations. Kahneman et al. (1986) use household surveys of public opinions to infer rules of fairness for conduct in the market. Blinder and Choi (1990), and Agell and Lundborg (1995) use interview surveys showing that notions of fairness are important, and that they may explain nominal wage rigidity.[2]

This puzzling evidence that in some situations the pure self-interested model is refuted, while in others it seems to be accurate (market games, public good games without punishment) has been reconciled by Fehr and Schmidt (1999), who assume that in addition to self-interested people there is a fraction of fairness-motivated people. To model our consumers' demand for standards we use a simple version of their formalization of the notion of fairness as inequity aversion.

If consumers have a demand for labour standards, why doesn't the market produce the socially optimal level of standards? A main market failure is consumers' lack of information about workplace conditions. Public or private organizations could help fill this gap.

An important role in informing consumers and determining preferences for labour standards is played by non-governmental organizations, interest groups, unions and media. In our descriptive approach we concentrate on the role played by NGOs and other organizations in disclosing information about labour standards to consumers.[3]

Besides inequity-averse consumers and activism, a third basic ingredient of our analysis is the multi-national enterprise (MNE). Direct foreign investment (FDI) has grown rapidly throughout the world. Even though advanced industrialized countries have remained the main destination of FDI flows going to developing countries grew steadily, from 22 per cent in 1985 to 38 per cent in 1997 (pg. 18 ILO 2002). Multinationals take several factors into account when deciding where and how much to produce. One of these factors are labour standards. An interesting issue is investigating the motives of multinational firms in choosing production locations and examining the role of activism in influencing consumer demand and, consequently, the behaviour of the firms themselves.[4] If consumers have a demand

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[2]Further support comes from the experimental literature. Relevant experimental studies concern the ultimatum game and the dictator game. The former focuses on how two individuals bargain over the division of a given pie. Player one offers a share to player two. If player two accepts, each gets the shares player one decided. In case of rejection, both players get zero. The standard model predicts that player one offers zero to player two, who accepts. But numerous studies (Camerer and Thaler 1995, Roth 1995) refute this prediction, suggesting that fairness affects the behaviour of many people. Even more impressive are the results for the dictator game. In this game only player one decides, whatever split he choose goes. Once again the standard model predicts that player one offers zero to player two. In contrast, in the experimental studies (Forsythe et al. 1994, Andreoni and Miller 1995) only a minority actually gives zero.

[3]Rock (2001) recalls that the anti-sweatshop movement arose in America in the 1990s and by the end of the decade 43 American NGOs and a growing number of international organizations were engaged.

[4]Haaland and Wooton (1999) study the role of investment incentives offered by countries in influencing the location decision by an MNE. But their firm faces the same demand curve while we start from consumers'

for standards, the main effect of activism is to make the price of the good dependent on the standards used to do it. Clearly, production and location decisions will depend on the difference in standards between the developed country and the LDC.

We then investigate how governments choose standards and the effect of an increase in the fraction of informed inequity-averse consumers on the standards equilibrium level and on the welfare of the workers in the LDC. Governments face a fundamental trade off between lowering standards in order to attract the MNE and improving working conditions in order to increase per worker utility. An increase in the public disclosure of information on standards deteriorates working conditions in both the developed and the less developed country, starting a race to the bottom. Choosing non-cooperatively governments do not internalise the negative externality on the other country's employment and in the end both countries are left worse off.

The paper is organized as follows. Section 2 lays out the model. In Section 3 wages are determined. Section 4 presents the MNE production and location decisions. In Section 5 we investigate the comparative statics of activism. Section 6 argues that results are robust for variations in the set-up. Section 7 concludes.

2 The Model

Consider two countries D(eveloped) and L(ess developed) and an MNE that produces a product made of one input: labour. The input can be offered by workers in both countries. Governments, which are benevolent decision makers, decide s_i with $i \in \{D, L\}$, the labour standards which are chosen to maximize the benefit of MNE employment. Having observed the standards chosen by governments, the company will choose the level of production and how to divide the production process between the two countries. Wages are determined. Finally, a continuum of consumers of unit size forms demand.

2.1 Labour Standards and Workers

Freeman (1994) divides standards between core standards that address human rights and cost standards that affect firm behaviour. Many core standards (freedom of association, prohibition of forced labour, non-discrimination in employment) can be met without high levels of income and should be universal. On the contrary, cost standards (minimum wages, health, safety and child labour standards) are GNP sensitive and, therefore, should not be applied universally. But, as underlined by Freeman (pg. 89, 1994), this distinction still leaves open some difficult cases: "While no one can object to different wage standards or

preferences to find a demand schedule that depends on labour standards.

minimum wages across countries, varying health and safety or child labour standards is more problematic". Consumers dislike the inhumane and unsafe labour practices under which some products are manufactured and not wage differences between developed and developing countries. In this paper, we focus on those standards which are important to consumers and costly for firms.

It should also be noticed that, though one-dimensional, our standard measure s can be thought of as a summary measure of many different dimensions of standards. This implies that a government can raise s either by raising the value of one of its particular components, such as the occupational safety and health level, or by adding a new, previously neglected component, say limiting child labour.

The reason why consumers care for the labour practices under which products are manufactured is that labour standards affect worker's utility. Assume that workers get utility from wage and labour standards and disutility from effort:

$$u_i = w_i - e + bs_i, \tag{1}$$

with $i \in \{D, L\}$ where e is the level of effort, w_i is wage in country D(eveloped) and L(ess developed) and b is the benefit of standard s_i.[5]

2.2 Consumers

As in Fehr and Schmidt (1999) an individual is inequity-averse if he dislikes outcomes that are perceived as inequitable. In our setting, in addition to a fraction $\left(1 - \alpha'\right)$ of purely selfish subjects, who care only about the well-being they get from the consumption of the product, there are also consumers (the remaining fraction α') who dislike a difference between labour standards. Thanks to the work of activist organizations, interest groups, unions and media a fraction of consumers α'' is informed about the labour standards chosen by countries, while the rest $\left(1 - \alpha''\right)$ are not informed.[6] All groups of consumers have the same taste parameter v. In practice, uninformed and self-interested individuals have the same consumption behaviour. In both cases they have quasi-linear quadratic preferences $u_c = vx - \frac{x^2}{2} + m$, where x is quantity and m is the numeraire. Instead, the utility of well-informed, inequity-averse consumers is:

$$u_c = \left(v - \beta \left|s_D - s_L\right|\right) x - \frac{x^2}{2} + m. \tag{2}$$

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[5] For simplicity, workers are assumed distinct from consumers.

[6] Consumers are passive in acquiring information. The idea being that without activism they are unaware of the existence of a practice they may dislike.

The new term in (2) measures the effect on utility of inequity.

According to the experimental evidence that people have an innate desire for fairness, we assume $\beta > 0$, as otherwise we would be back to the case of selfish and/or uninformed subjects. In particular, β positive means we rule out the possibility that consumers like inequity.

We denote with $\alpha = \alpha' * \alpha''$ the fraction of well-informed inequity-averse consumers, with $(1 - \alpha)$ the rest. From now on we keep the proportion of selfish consumers in the population fixed. Therefore, α is influenced only by activism and is a measure of that activism.

For all consumers the budget constraint is:

$$m + xp \leqslant y$$

where the expression on the left-hand side is the consumer's total spending (p is the price of the product) and y is the (positive) initial endowment.

For each group of consumers demand is obtained by maximizing the utility function u_c subject to the budget constraint. Well-informed inequity-averse consumers will demand a quantity $x = v - p - \beta |s_D - s_L|$, while the rest will demand $x = v - p$. The overall demand is:

$$x = (1 - \alpha)(v - p) + \alpha(v - p - \beta |s_D - s_L|). \tag{3}$$

Define $\Delta s = s_D - s_L$ as the difference in labour standards. Then, demand increases in the taste parameter v and decreases in price p. An increase in α, the fraction of informed inequity-averse consumers, increases the fraction of consumers that suffer the effect of inequity on utility. Thus when standards are different demand decreases in α. The demand obtains a maximum for $s_D = s_L$. The inverse demand curve as a function of the difference in labour standards is:

$$p = v - x - \alpha \beta |\Delta s|.$$

The claim that when standards are different demand decreases in α deserves some clarifications. One could wonder why the MNE cannot separate the market by putting a label denoting the country of production? In this case, he would sell the fraction produced under the better conditions (s_D) to the inequity-averse consumers, and the rest to the self-interested ones. In our model this will not work. In fact, what we are really assuming is that inequity-averse consumers, whenever informed, suffer from the existence of the unequal treatment in itself. Then if the MNE produces (even part of its output) using poor labour standards (s_L) they will punish it, no matter the production conditions of the specific object they face.

2.3 MNE

Our product is made by a monopolist[7]. The firm can become a multinational by deciding to produce in both countries. The expression for profits is:

$$\pi = (v - x - \alpha\beta\,|\Delta s|)\,x - (w_L + cs_L)\,f - (w_D + cs_D)\,(x - f) - \frac{kf^2}{2} \qquad (4)$$

We normalize the labour requirement for one unit of final product to one. Thus the company's work-force is equal to the level of production x. Profits are a function of labour standards, because those affect both the price that consumers are willing to pay and the production cost. f is quantity outsourced, the part of the total production manufactured in the LDC, as well as LDC's workers employed in the MNE. The remaining quantity, $x - f$, is produced in the developed country (by $x - f$ workers).[8] Producing or subcontracting f in an LDC's plant, costs the firm $\frac{kf^2}{2}$, where k is a cost parameter.[9] Finally, in both the developed and the less developed country, the marginal production cost, $w_i + cs_i$ with $i \in \{D, L\}$, is equal to per worker cost, i.e., the wage plus the cost to guarantee a certain standard to each worker, where c is the marginal cost of standard s_i.

2.4 Governments

Workers employed by the multinational have an opportunity cost V_i with $i \in \{D, L\}$, where V is the wage in the secondary or in the informal sector. In some sense the opportunity cost can also be interpreted as a measure of the general employment conditions. High opportunity cost indicates close to full employment, low V indicates that the extra employment that the company would provide is of great value to the country. Governments choose labour standards to maximize the benefit of MNE employment:

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\begin{aligned}
W_D &= (x - f)\,(u_D - V_D) \qquad (5)\\
W_L &= f\,(u_L - V_L).
\end{aligned}
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W_i the welfare contribution of the multinational is the product of the number of workers f $(x - f)$ and the difference between each workers' utility and the opportunity cost $u_L - V_L$ $(u_D - V_D)$.

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[7] In Section 6 we show that the main result does not rely on the monopoly assumption.

[8] Sometimes a discrete location choice could seem more appropriate. However, treating the multinational enterprise location decision as a continuous variable makes the analysis more elegant and simpler, without changing the qualitative results.

[9] Those costs are both direct ones such as transportation cost, construction of new plants, etc. and indirect ones like any form of lobbying against outsourcing.

The choice of the government's objective function deserves some comments. First, governments are not concerned with the wellbeing of firms because we assume that neither country owns the company. Think of a British MNE that must choose between producing in Spain or in China; second, this paper's approach is descriptive rather than normative in nature (the choice of a non-cooperative game in Section 5 is driven by this). Having policy makers maximize consumers interest would not be a good description of reality. Indeed, due to collective action problems consumers are divided and may not be effective in lobbying policy makers. On the contrary, workers interests are represented by unions that can effectively lobby policy makers.

3   Wage determination

We include an explicitly noncompetitive labour market. We set out a two-country efficiency wage model (Shapiro and Stiglitz 1984). Individual employees can decide to shirk and exert zero effort, but an individual who shirks runs the risk of being detected. Denote by δ the probability of escaping detection and assume that anyone caught shirking is fired. The expected utility of a worker who has been fired is $Eu_i = (w_i - e + bs_i)\,\varepsilon\,(U) + (V_i + \gamma_i bs_i)\,(1 - \varepsilon\,(U))$ with $i \in \{D, L\}$. $\varepsilon\,(U)$ is the probability of finding another job with the same qualification, while γ_i is a parameter that measure the enforcement of labour standards in the secondary or informal sector. We assume that workers enjoy lower benefit $0 < \gamma_i < 1$ in the secondary or informal sector and that enforcement of labour standards is greater in the developed country, $\gamma_D > \gamma_L$. This is because some sectors like agriculture, logging, fishing and mining are often the world's most hazardous industries and because in some sectors standards are badly enforced. Writing about the prominence of occupational safety and health standards the ILO Global Employment Agenda (2002 pg.42) made the following observation: "informal sector working, (especially in poor countries) can be particularly hazardous partly because of its semi-illegality...".

Employers must pay a wage that is sufficiently high to induce employees not to shirk. For a no-shirking equilibrium, the expected utility from not shirking must equal that from shirking:
$$w_i - e + bs_i = \delta\,(w_i + bs_i) + (1 - \delta)\,Eu_i,$$
which simplifies after manipulation, to:
$$w_i\,(s_i, \gamma_i) = e + V_i + \frac{e\delta}{(1 - \delta)\,[1 - \varepsilon\,(U)]} - bs_i\,(1 - \gamma_i). \tag{6}$$

Note that higher benefits from labour standards are partially outweighed by a reduction in base earnings, as employers take away part of the benefits lowering wages ($\frac{\partial w_i(s_i,\gamma_i)}{\partial s_i} < 0$). This downward shift is facilitated by the weak enforcement of labour standards ($\frac{\partial w_i(s_i,\gamma_i)}{\partial \gamma_i} >$

$0, \frac{\partial^2 w_i(s_i, \gamma_i)}{\partial \gamma_i \partial s_i} > 0$). Define $\Delta \gamma = \gamma_D - \gamma_L$, the different capabilities of enforcing regulation between the developed and the less developed country.

4   MNE's decisions: production and outsourcing

The firm decides the optimal level of production and quantity outsourced. Maximizing (4) with respect to x and f yields the following solution:[10]

$$x (s_D, s_L; \alpha) = (v - \alpha \beta \, |\Delta s| - w_D (s_D, \gamma_D) - cs_D) /2$$
$$f (s_D, s_L) = (w_D (s_D, \gamma_D) + cs_D - w_L (s_L, \gamma_L) - cs_L) /k \tag{7}$$

An increase in α, the fraction of well-informed inequity-averse consumers, has an impact on the level of production. When labour standards are different, demand decreases in α, thus the quantity produced is negatively affected by an increase in α. The same is true for an increase in β, $|\Delta s|$ and country's D marginal production cost.

Country's L marginal production cost has no effect on the optimal production level but it is relevant for the optimal division of production between the two countries. In deciding the level of quantity outsourced, the MNE equate the difference in the two countries marginal production cost with the cost of moving part of the production to the LDC. The company will choose a positive level of quantity outsourced only if the marginal cost in the LDC is lower than in the D country.

To study the role played by enforcement capabilities, we use equilibrium wage in (6) to get a country's i marginal production cost:

$$w_i (s_i, \gamma_i) + cs_i = e + \frac{e\delta}{(1 - \delta) [1 - \varepsilon (U)]} + V_i - bs_i (1 - \gamma_i) + cs_i. \tag{8}$$

Substituting (8) in (7) it is simple to see that an increase in γ_D, by increasing country D's marginal production cost has a negative effect on production. Moreover, the increase in country D's marginal production cost increases the difference in the two countries costs and has a positive effect on quantity outsourced. On the contrary, an increase in the LDC enforcement capabilities, γ_L, has a negative effect on quantity outsourced.

5   The Governments Game

Some argue that labour market regulation is necessary to protect the rights of workers and to improve working conditions. Others point out that most regulations discourage firms

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[10]The second order conditions are satisfied given: $\frac{\partial^2 \pi}{\partial x^2} = -2 < 0$, $\frac{\partial^2 \pi}{\partial f^2} = -k < 0$ and the determinant of the Hessian matrix $|H| = 2k > 0$.

from hiring workers and thus have the unintended consequence of harming the very people they are designed to protect. Moreover, as said before, the level of employment also depends on activism. The purpose of this section is to study how governments choose standards and the effect of activism on their equilibrium level and on the welfare of the workers in the less developed country.

It is a controversial issue whether labour standards should be part of international agreements, and getting countries to credibly delegate the decision process to a supra-national authority appears very difficult indeed. Therefore, the non-cooperative approach appears the best description of the real world. We look for the simultaneous solution of the following programmes. For the developed country:

$$\max_{s_D} W_D = \left(x\left(s_D, s_L; \alpha\right) - f\left(s_D, s_L\right)\right)\left(B + bs_D\gamma_D\right) \tag{9}$$

and for the less developed country:

$$\max_{s_L} W_L = f\left(s_D, s_L\right)\left(B + bs_L\gamma_L\right). \tag{10}$$

To get the previous expressions: first, substitute the equilibrium wage (6) in the workers' utility (1). The resulting workers' utility is a function of labour standards and their enforcement: $u_i\left(s_i, \gamma_i\right) = B + V_i + bs_i\gamma_i$, $(B = \frac{e\delta}{(1-\delta)[1-\varepsilon(U)]})$.[11] Then, substitute this expression together with production and quantity outsourced (7) in the governments' objective (5).

For each country, W_i, the welfare contribution of the multinational, is the product of the number of workers f $(x - f)$ and the per worker benefit $u_L - V_L$ $(u_D - V_D)$. Therefore, governments face a fundamental trade off between lowering standards in order to attract the company and improving working conditions in order to increase per worker utility. We assume that[12]

$$c - b\left(1 - \gamma_L\right) > b\Delta\gamma. \tag{11}$$

Condition (11) has a nice economic interpretation. In words, the increase in countries' marginal production cost due to a small increase in labour standards is big enough.[13] Particularly, it is greater than a measure of the different capabilities of enforcing regulation between the developed and the less developed country. This assumption can be seen as a formalization of Freeman's distinction between core and cost standards. For some standards,

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[11] Note that higher standards and enforcement both increase workers' utility and reinforce each other $(\frac{\partial u_i(s_i, \gamma_i)}{\partial s_i} > 0, \frac{\partial u_i(s_i, \gamma_i)}{\partial \gamma_i} > 0$ and $\frac{\partial^2 u_i(s_i, \gamma_i)}{\partial s_i \partial \gamma_i} > 0)$.

[12] Recalling that that enforcement of labour standards is greater in the developed country, $\gamma_D > \gamma_L$, condition (11) also implies $c - b\left(1 - \gamma_D\right) > c - b\left(1 - \gamma_L\right) > 0$.

[13] The left-hand side of (11) is equal to $\partial(w_L + cs_L)/\partial s_L$.

the marginal benefit of standards, b, is high while the marginal cost, c, is low. This is the core standard region (freedom of association, prohibition of forced labour, non-discrimination in employment) that can be met without regard to the degree of development. For other standards, the marginal cost c is high. Standards in this cost region (health, safety and child labour standards), which are important to consumers and costly for firms are the focus of our work. The first-order condition of country D is given by:

$$\frac{\partial W_D}{\partial s_D} = \frac{\partial \left(x \left(s_D, s_L; \alpha \right) - f \left(s_D, s_L \right) \right)}{\partial s_D} \left(B + b s_D \gamma_D \right) + \left(x \left(s_D, s_L; \alpha \right) - f \left(s_D, s_L \right) \right) b \gamma_D = 0.$$
(12)

The scond-order condition is: $\frac{\partial^2 W_D}{\partial s_D^2} = 2 b \gamma_D \frac{\partial (x(s_D, s_L; \alpha) - f(s_D, s_L))}{\partial s_D}$. The first and second-order conditions of country L are given respectively by:

$$\frac{\partial W_L}{\partial s_L} = \frac{\partial f \left(s_D, s_L \right)}{\partial s_L} \left(B + b s_L \gamma_L \right) + f \left(s_D, s_L \right) b \gamma_L = 0$$
(13)

and $\frac{\partial^2 W_L}{\partial s_L^2} = 2 b \gamma_L \frac{\partial f(s_D, s_L)}{\partial s_L}$. Note that assumption (11) implies that the solution is interior and that the second-order conditions are satisfied.

Totally differentiating equations (12) and (13) yields:

$$R'_D(s_L) = -\frac{\partial^2 W_D / \partial s_D \partial s_L}{\partial^2 W_D / \partial s_D^2} = \frac{k(\alpha\beta) + 2 \left[c - b \left(1 - \gamma_L \right) \right]}{k \left[\alpha\beta + c - b \left(1 - \gamma_D \right) \right] + 2 \left[c - b \left(1 - \gamma_D \right) \right]}$$

and

$$R'_L(s_D) = -\frac{\partial^2 W_L / \partial s_L \partial s_D}{\partial^2 W_L / \partial s_L^2} = \frac{c - b \left(1 - \gamma_D \right)}{2 \left[c - b \left(1 - \gamma_L \right) \right]},$$

where $R'_D(s_L)$ and $R'_L(s_D)$, which denote the slopes of the countries reaction curves are both positives. Therefore, s_i is an increasing function of s_j, $i \neq j$. In other words, labour standards are strategic complements.

Finally note that $R'_D(s_L)$ and $R'_L(s_D)$ are both smaller than one so that there exist a unique stable Nash equilibrium.[14]

5.1 Does activism improve labour practices?

We are now ready to study the effect of an increase in α, the fraction of well-informed inequity-averse consumers, on the equilibrium level of labour standards for the interesting and plausible case of $\Delta s > 0$.

Proposition 1 *An increase in activism reduces labour standards in both countries and it has an ambiguous effect on their distance, Δs.*

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[14] This is easily seen using condition (11) and recalling that $c - b \left(1 - \gamma_D \right) > c - b \left(1 - \gamma_L \right) > 0$.

Proof: Assume that $\Delta s > 0$ and that the system consisting of equations (12) and (13) satisfies the condition required by the implicit function theorem: both implicit functions have continuous derivatives and the endogenous variables Jacobian $|J|$ is nonzero when evaluated at the equilibrium. Actually, (11) is sufficient to have $|J|$ strictly positive[15]. Use of the implicit function theorem leads to

$$\frac{ds_D}{d\alpha} = -\frac{\beta/k\left((B + bs_D\gamma_D) + b\gamma_D\Delta s\right)\left(b\gamma_L\left(c - b\left(1 - \gamma_L\right)\right)\right)}{|J|} \tag{14}$$

which is always negative. The effect on LDC's labour standards is given by

$$\frac{ds_L}{d\alpha} = -\frac{\beta/2k\left((B + bs_D\gamma_D) + b\gamma_D\Delta s\right)\left(b\gamma_L\left(c - b\left(1 - \gamma_D\right)\right)\right)}{|J|} \tag{15}$$

which is negative as well. For the second part of the Proposition note that $sign\frac{d\Delta s}{d\alpha} = sign\left(\frac{ds_D}{d\alpha} - \frac{ds_L}{d\alpha}\right) = sign\left(b\Delta\gamma - c + b\left(1 - \gamma_L\right)\right)$ is not restricted by assumption (11). Thus, we conclude that Δs can both increase or decrease. ∎

Public disclosure of information on standards deteriorates working conditions in both the developed and the less developed country. The governments in the two countries set standards non-cooperatively facing the same trade off. An increase in labor standards by a government improves the workers conditions at the cost of reducing employment, as the multinational increases its' relocation into the other country. Consider country D. A lower total demand, induced by a greater fraction of well-informed inequity-averse consumers, decreases the marginal benefit of higher labour standards and increases their marginal cost; thus, the labour standards in country D decrease. Given that the reaction curves of the two governments are such that s_D and s_L are strategic complements, the standards in the LDC also decrease. Pressure for international harmonization of labour standards, in the absence of coordination, creates a prisoner's dilemma. More public disclosure of information to consumers, lowering demand, starts a race to the bottom. Countries will each lower their own standards in order to gain a competitive advantage.

5.2   Is activism good for LDCs?

To assess the desirability of public disclosure of information, the point is not if workers deserve a better treatment. The questions to answer are: if workers and their country are worse off producing goods based on low standards than they would be in other circumstances. We answered the former question, showing that activism deteriorates standards, and then

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[15] The condition $|J| = \frac{\partial^2 W_D}{\partial s_D^2}\frac{\partial^2 W_L}{\partial s_L^2} - \frac{\partial^2 W_D}{\partial s_D \partial s_L}\frac{\partial^2 W_L}{\partial s_L \partial s_D} > 0$ is equivalent to $R_D'(s_L)R_L'(s_D) < 1$ which is true given that the slopes of both reaction curves are smaller than 1.

per worker utility. Studying the effect of activism on the welfare of each country, boils down to investigate whether the decrease in per worker utility is compensated by an increase in the work force or not.

The first thing to note is that a larger fraction of consumers aware of the difference in standards, an increase in α, depresses demand and employment decreasing total welfare. We call this a *consumer consciousness* effect:

$$\frac{d(W_D + W_L)}{d\alpha} = \frac{\partial W_D}{\partial \alpha} = -\frac{\beta \Delta s}{2}(B + bs_D\gamma_D) < 0.$$

Once strategic interactions between governments are taken into account activism could change the 'division of the pie', making the LDC country better off. This is not the case as shown in the following Proposition.

Proposition 2 *Activism will decrease welfare in both countries.*

Proof: Assume $\Delta s > 0$. Applying the envelope theorem to the maximized value of governments' objective (10) and (9) gives for the LDC:

$$\frac{dW_L}{d\alpha} = \frac{\partial W_L}{\partial s_D}\frac{ds_D}{d\alpha} = \frac{(c - b(1 - \gamma_D))}{k}(B + bs_L\gamma_L)\frac{ds_D}{d\alpha} \tag{16}$$

and for the D country:

$$\frac{dW_D}{d\alpha} = \frac{\partial W_D}{\partial \alpha} + \frac{\partial W_D}{\partial s_L}\frac{ds_L}{d\alpha} = (B + bs_D\gamma_D)\left[\left(\frac{\alpha\beta}{2} + \frac{(c - b(1 - \gamma_L))}{k}\right)\frac{ds_L}{d\alpha} - \frac{\beta\Delta s}{2}\right] \tag{17}$$

The *strategic* effect, common to (16) and (17), is negative: standards are conventional complements ($\partial W_L/\partial s_D > 0$, $\partial W_D/\partial s_L > 0$) and $\frac{ds_D}{d\alpha}$ or $\frac{ds_L}{d\alpha}$ sign the effect (see Proposition 1). Moreover, the *consumer consciousness* effect in (17), is negative too. ∎

Activism reduces welfare in both countries. This is due to two effects. When a greater fraction of consumers are informed about labour standards inequality, the subsequent decrease in demand is clearly welfare decreasing. This *consumer consciousness* effect is present both in cooperative and in non-cooperative settings. But this is not the whole story. Choosing non-cooperatively governments do not internalise the negative externality on the other country's employment. In fact, the decrease in demand pushes the developed country to lower standards, but lower standards in D have also the effect of pushing the firm to lower quantity outsourced, so that the less developed country reacts lowering standards as well. This *strategic* or prisoner dilemma effect shown in Proposition 1 sums to the *consumer consciousness* effect and at the end both countries are worse off.

6 Discussion and Extensions

In this Section we argue that our results are robust to different variations in the set-up and we give a better understanding of the key elements of the model. In particular, we study three extensions related to the effect of labeling, to the relevance of the market structure and to the consumer consciousness effect. The Conclusion discusses other potential extensions which are left for further research.

6.1 The effect of labeling

We have already noted that our monopolist cannot separate the market by putting a label denoting the country of production, because inequity-averse consumers suffer from the existence of the unequal treatment in itself, no matter the production conditions of the specific object they buy. More in general, an alternative mechanism to legal regulation for the elimination of poor labour standards would be to label products and leave producers free to choose labour conditions in their workplaces. A recent interesting paper by Davies (2005) shows that under Bertrand competition, such completely market-based method is unlikely to eliminate child labour. Another paper by Baland and Duprez (2004) analyses the impact of both social and geographical labelling on child labour. A model of North-South trade is developed, which shows that social labelling will not have any effects in several cases. Those results, together with our work, imply that for the elimination of poor labour standards, demand-driven mechanisms, fully or partially market-based may not be sufficient.

6.2 Oligopoly

Do the negative results rely on the monopoly assumption for the product market? To answer this question we assume that the good is produced by n firms competing à la Cournot. Then the expression for firm's j profits is:

$$\pi_j = \left(v - \sum_{j=1}^{n} x_j - \alpha\beta \left| \Delta s \right| \right) x_j - (w_L + cs_L) f_j - (w_D + cs_D)(x_j - f_j) - \frac{kf_j^2}{2}. \quad (18)$$

Solving problem (18) for the symmetric case, yields the following solution[16]:

$$x_j = x = \left(v - \alpha\beta \left| \Delta s \right| - w_D\left(s_D, \gamma_D \right) - cs_D \right) / (n+1) \qquad \text{for any } j = 1...n$$
$$f_j = f = \left(w_D\left(s_D, \gamma_D \right) + cs_D - w_L\left(s_L, \gamma_L \right) - cs_L \right) / k \qquad \text{for any } j = 1...n.$$

___

[16] Note that while f is constant with respect to n, x is decreasing in n. There is then an $\bar{n}$ such that $x(\bar{n}) = f$, i.e. from $\bar{n}$ on all the production is carried out in the LDC.

Next, we follow the same steps as in Section 5. We first solve for the simultaneous solution of the governments programmes. Then, making use of the implicit function theorem on the system that describes the equilibrium we get for the $\Delta s > 0$ case:

$$
\begin{aligned}
\frac{ds_D}{d\alpha} &= -\frac{\frac{2\beta}{k(n+1)}\left((B + bs_D\gamma_D) + b\gamma_D\Delta s\right)\left(b\gamma_L\left(c - b\left(1 - \gamma_L\right)\right)\right)}{|J|} \\
\frac{ds_L}{d\alpha} &= -\frac{\frac{\beta}{k(n+1)}\left((B + bs_D\gamma_D) + b\gamma_D\Delta s\right)\left(b\gamma_L\left(c - b\left(1 - \gamma_D\right)\right)\right)}{|J|},
\end{aligned}
$$

which are a generalisation of (14) and (15) and are both negative. It is also straightforward to check that activism reduces welfare in both countries. Therefore, we argue that the monopoly assumption is not a key element of the model.

6.3   Consumer consciousness

Information about labor standards does not increase the utility of an inequity-averse consumer and such consumer would always prefer to remain uninformed. In other words, the information provided by activists has only a negative connotation, as it results clear from the utility function in (2). In some circumstances, it may be realistic to assume that there is also a benefit from this information. Consumers utility could depend positively on the consciousness of facing the problem or it may increase in the fraction of the total production made under good labor conditions, and so on. To represent such preferences while preserving the tractability of the model, let us assume that the utility of well-informed, inequity-averse consumers is:

$$
u_c = \left(v + I - \beta\left|s_D - s_L\right|\right)x - \frac{x^2}{2} + m,
$$

where I is a parameter that measures the benefit from being informed.

Going through the same steps of the previous sections we get for the $\Delta s > 0$ case:

$$
sign\frac{ds_D}{d\alpha} = sign\frac{ds_L}{d\alpha} = sign\frac{\partial^2 W_D}{\partial s_D \partial\alpha} = -\left(B + bs_D\gamma_D\right)\frac{\beta}{2} + \frac{b\gamma_D}{2}\frac{I - \beta\Delta s}{k}.
$$

Define $\widehat{I} = \beta\left(\Delta s + s_D + B/b\gamma_D\right)$. We are able to sign the effect of activism on the equilibrium level of labour standards and on the welfare of the LDC's workers for different ranges of parameter I.[17]

Parameter regions		$(i)\ I \leqslant \beta\Delta s$	$(ii)\ \beta\Delta s < I < \widehat{I}$	$(iii)\ I \geqslant \widehat{I}$
Effect of α on standars	$sign\frac{ds_D}{d\alpha}$ and $\frac{ds_L}{d\alpha}$	$-$	$-$	$0/+$
Consumer Consciousness	$\frac{d(W_D + W_L)}{d\alpha}$	$-/0$	$+$	$+$
Effect of α on LDC	$\frac{dW_L}{d\alpha}$	$-$	$-$	$0/+$

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[17]Note that for $I = 0$ we are back to the benchmark model.

Recall from Subsection 5.2 that we talk of *consumer consciousness* effect when prior to any strategic interaction activism reduces demand and welfare in both countries. This effect, which is present both in cooperative and in non-cooperative settings, is still there when $I < \beta\Delta s$ (region (i)). Therefore, to understand how key it is for our results, we now look at regions (ii) and (iii). When the benefit from being informed is sufficiently high (iii), the effect of activism on labour standards and on workers' welfare in the LDC is positive. However, the most interesting range of parameters is the one in column (ii). In fact, we find that even if the consumer consciousness effect is not present (activism increases demand), when a greater fraction of consumers are informed about labour practices, the equilibrium level of labour standards and the welfare of the workers in the LDC are decreasing. It is difficult to say whether or not there is a benefit for inequity-averse consumers from being informed about poor labour conditions. And it seems particularly challenging to imagine how big this benefit could be. We conjecture that the negative connotation will always dominate the positive one.

7   Conclusion

We have shown that public disclosure of information on labour standards deteriorates both working conditions and welfare in the less developed country. We have also argued that these negative results are robust to variations in the set-up. In particular, we have studied labeling, different market structures and a weakening of the consumer consciousness effect. Another natural extension concerns the possibility of lobbying both of the governments by the MNE, and of the MNE by consumer groups. This potential extension is left for further research.

This paper has treated the role of activists in disclosing information to consumers in the simplest possible way, and it has concentrated on the role played by governments in setting standards. In two complementary papers, Baron (2001) and Feddersen and Gilligan (2001) provide a theory in which interest and activist groups attempt to influence economic activity directly without reliance on public institutions or officeholders. Our paper adds the role of governments while leaving activists unmodelled. Feddersen and Gilligan's activist provides information to consumers who have a demand for a good whose quality cannot be determined from consumption. They show that by providing information to consumers the activist mitigates a market failure due to incomplete information about quality. The activist can help segment the market in favour of a firm that adopts the good technology. Differently from our paper the activist thus generates a welfare improvement. Key for our negative outcomes to obtain is the prisoner's dilemma aspect of governments interaction. Public disclosure of information to consumers, lowering demand, starts a race to the bottom.

Countries will each lower their own standards in order to gain a competitive advantage.

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WORKING PAPER NO. 101

Fairness, Consumer Consciousness and the Welfare of Less Developed Countries

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Abstract

Activist organizations, interest groups, unions and media reveal information about labour standards. In a world where some consumers are not self-interested, the price of a product made by a multinational enterprise and the latter's location and production decisions depend on the difference in labour standards between developed and less developed countries. We study the effect of an increase in the fraction of informed inequity-averse consumers on the behaviour of multinational firms, on the equilibrium level of labour standards and on the welfare of workers in the less developed countries. An increase in activism deteriorates labour practices and decreases welfare.

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