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Union Legislation and Export Platform FDI

DERMOT LEAHY* & CATIA MONTAGNA**
**University College Dublin, Ireland*
***University of Dundee and Leverhulme Centre for Research on Globalisation and Economic Policy, University of Nottingham*

ABSTRACT *This paper examines Foreign Direct Investment in the presence of labour unions. An oligopoly model is developed in which identical firms locate in a host country in order to export to a foreign country. These firms are unionized and compete with foreign firms on the foreign market. We consider the incentives for social dumping via restrictive labour legislation, which we assume can be used by the host country government to affect the bargaining power of unions. We ask whether it is in the interest of the importing foreign country for the host country to relax or to tighten labour laws.*

KEY WORDS: Foreign Direct Investment, labour unions, labour legislation, social dumping, exports

Introduction

A fundamental issue in the debate surrounding globalization concerns the extent to which inter-country differences in labour standards distort the international allocation of resources. In advanced industrial economies there is a fear that – by making use of cheap labour and lax labour market regulations – developing countries may be able to enjoy *unfair* advantages over competitors, not only in international trade but also in their ability to attract and/or retain investment. Given the alleged importance of labour costs in determining the location choice of multinational firms (MNEs), labour interests in industrial countries warn of the dangers of a *race-to-the-bottom* in social standards as governments may be tempted to actively relax regulatory frameworks to compete for jobs. Indeed, calls for a formal incorporation of the issue of labour standards into WTO trade liberalization negotiations have systematically been met by resistance by developing countries, who perceive international pressures for the establishment of

Correspondence Address: Catia Montagna, Department of Economic Studies, University of Dundee, 3 Perth Road, Dundee DD1 4HN, UK. E-mail: c.montagna@dundee.ac.uk

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monitoring and enforcement mechanisms to their labour practices as forms of hidden protectionism.[1]

The aim of this paper is to illuminate issues raised within this debate by examining the implications of the use of labour market legislation on (i) a (developing) country's ability to attract foreign direct investment (FDI), and (ii) on the conflict of interest that might arise between a country that hosts export-oriented FDI and an importing country with respect to levels of labour market regulation.

Cost and labour market flexibility considerations rank high amongst the determinants of the location decisions of internationally mobile firms and are often entwined with concerns about market access, i.e. with the desire to gain access to another market that may otherwise be difficult to penetrate. For instance, US and Japanese firms wishing to gain access to European Union markets will often try to locate in the lower wage periphery or in the flexible labour markets of the UK and Ireland and use them as an export base to avoid the common external tariffs imposed by the European Union. Similarly, European firms may locate in Mexico to export to the US. Often, in situations such as this, the main objective of FDI is not to serve the host country's market, and the vast bulk of the multinationals' output is exported to a foreign market.[2]

In this paper we shall be concerned with FDI that occurs for both the labour cost and the market access reasons, and develop a framework that enables us to capture the conflict of interest that emerges between industrialized and developing countries when firms in the former compete – for their own domestic market – with MNEs located in countries where labour costs are lower. In such a situation, incentives may arise in the industrialized country to bring accusations of social dumping against the country that hosts the MNEs if, in the latter, labour standards are lower than in the former. With respect to labour standards, we shall concentrate on the first ILO core Labour Standard, namely freedom of association and the effective recognition of the right to collective bargaining.[3] Specifically, we shall assume that governments can affect the bargaining power of the unions through legislation and we shall link weak labour standards to weak bargaining power of unions.

We set up an oligopoly model of 'export-platform' FDI in which identical multinational firms locate in a host country (which can be thought of as an LDC) in order to export to the market of a foreign industrial economy where they face competition from indigenous firms. The multinationals, owned by residents of a third country, repatriate all their profits and, once located in the host country, face unionized labour markets. Unionization generates a trade-off for the host country's government: on the one hand unions represent a means to extract rents from foreign multinationals; on the other, to the extent that it results in higher firms' costs, unionization may discourage inward FDI. In an attempt to attract investment, the host country government may thus have an incentive to limit unions' power.

Governments' engagement in social dumping may however be perceived as unfair by foreign competitors, particularly where concerns about employment exist.

We consider the host country's government's incentives for restricting unions' power and engaging in social dumping motivated by a desire to attract FDI. To this end, we assume that the host country government has the power to affect the bargaining power of the unions through legislation. We also assume that unemployment exists in both countries and ask whether it is in the interest of the importing country for the host country to relax or to tighten labour laws.

The literature on labour standards and international trade does not normally treat labour standards as policy variables, even when – as for example in Casella (1996) – they are endogenously determined.[4] Similarly, those contributions that explore the relationship between labour market institutions and FDI typically ignore the possibility of the government's (strategic) use of union legislation.[5] As a notable exception, Leahy & Montagna (2000b) analyse a host country government's incentives to legalise unions when MNEs benefit from dynamic effects.

The plan of the paper is as follows. The next section sets up the basic model. In the section after, we examine the incentives faced by the host country to tighten union legislation and engage in some form of social dumping. We also analyse the implications of such policies for the foreign importing country, which is concerned with both unemployment and with consumer surplus. In the fourth section, we consider an extension of the model. The fifth section concludes the paper.

The Model

We develop a partial equilibrium oligopoly model of 'export-platform' FDI that consists of three countries that we refer to as the 'host', 'importing' and 'third' country respectively. Multinationals locate in the host country and use it exclusively as an export base to serve the importing country market.[6] We assume that exports to the latter are only viable once the multinationals are located in the host country, which can be thought of as a developing country that enjoys geographical proximity and/or a preferential trading agreement with the importing country. The importing country, where indigenous firms also produce the good, can be thought of as a mature industrial economy characterized by factors such as high labour costs and rigid labour markets (e.g. strict employment protection laws) that make it an unattractive location for footloose firms and that make it too costly for its firms to relocate. We shall therefore assume that (i) MNEs do not locate in the importing country and (ii) the importing country's firms do not relocate to the host country.[7] The third country can be thought of as the rest of the world, from which the MNEs originate. Apart from acting as a source of FDI, this country plays no other role in the analysis.

The MNEs are symmetric in every respect and the number of these firms that set up in the host country is represented by N, which is endogenously determined. The host country is unionized and each MNE bargains with a single union over the wage to be paid to the homogeneous labour it employs. The wage paid by the ith multinational is given by w_i and the quantity it produces is q_i. To simplify, we assume labour is the only factor used in production and we normalize the input requirement of the typical MNE at unity so that w_i is the MNE's marginal production cost. The MNE must also incur a (non-labour) fixed location cost F that can be thought of as encompassing both the plant fixed costs and other fixed opportunity costs such as the reservation profit level (which will depend on profit opportunities in the rest of the world).

We assume that a fixed number M of symmetric firms are already located in the importing country. Each of these firms uses labour as the only input and has a constant marginal cost denoted by ω. To start with, we assume away importing-country unions as we wish to focus on the role of union bargaining power in the host country.[8] This assumption will be relaxed in the fourth section. The inverse demand curve in the importing-country market is given by:

$$p = a - bQ \tag{1}$$

where p is price, Q is the total quantity produced and a and b are positive constants. Total output is:

$$Q = \sum_{i}^{N} q_i + \sum_{k}^{M} q_k^* \tag{2}$$

where q_i is the output of the typical MNE located in the host country and q_k^* is the output of the typical foreign firm located in the importing country. The rent that a typical MNE obtains from its production in the host country is given by:

$$\Pi_i = \pi_i - F = (p - w_i)q_i - F \tag{3}$$

where π_i represent the firm's variable profit. The profits of the kth importing-country firm are:

$$\pi_k^* = (p - \omega)q_k^* \tag{4}$$

The typical union in the host country is assumed to be interested in maximizing labour rents and has utility function:

$$u_i = w_i q_i \tag{5}$$

where we have normalized the non-union wage at zero and where, given the assumed production technology, output q_i is equal to employment in the

firm. Thus, the wage and the employment in the firm receive equal weight in the union's utility function.[9]

We model the interaction between agents as a three-stage game. In stage one, entry of MNEs into the host country occurs until the profits of the entrants are driven to zero. In the second stage, each MNE bargains over the wage with a union representing its workforce. Finally, the MNEs and the importing-country firms choose their outputs simultaneously in a Cournot manner.

The third-stage first-order condition for a typical MNE is given by:

$$p - bq_i - w_i = 0 \tag{6}$$

and the first-order condition for a representative importing-country firm is:

$$p - bq_k^* - \omega = 0 \tag{7}$$

Combine equations (6) and (7) to give the Cournot – Nash equilibrium:

$$\begin{aligned} q &= \frac{a - (M+1)w + M\omega}{b(N+M+1)}, \\ q^* &= \frac{a - (N+1)\omega + Nw}{b(N+M+1)}. \end{aligned} \tag{8}$$

In stage two, the unions and the MNEs bargain over the wage. We model this as the outcome of a Nash bargaining process.[10] As firms and their unions bargain over wages simultaneously, they view the wages set by other firms as fixed. Thus, firm i and union i solve the following problem:

$$\max_{w_i} B(w_i) = u_i^{\alpha} \pi_i^{1-\alpha}, \qquad 0 \leqslant \alpha \leqslant 1 \tag{9}$$

where α is the bargaining power of the union, subject to:

$$q_i = \frac{a - (N+M)w_i + (N-1)w_j + M\omega}{b(N+M+1)} \tag{10}$$

Equation (10) gives the output of firm i as a function of its own wage and the wages of all other multinationals, and the importing country's marginal cost. This can be interpreted as firm i's *perceived* labour demand function. Given identical MNEs and unions, the solution to the bargaining process implies the symmetric wage:

$$w = \frac{(a + M\omega)\gamma}{N + M + (M+1)\gamma}, \tag{11}$$

where $\gamma = \alpha/(2-\alpha)$. The parameter γ, which lies between zero and one, is a measure of the relative bargaining power of unions. In stage two the number of firms is given, and w is increasing in γ.

In stage one, the MNEs enter the host country until the profits of the firms that choose to locate there are equal to the reservation profit that they would obtain elsewhere in the world. Hence the entry condition for the MNEs is given by $\pi_i - F = 0$. Make use of equation (6), the first-order condition for the typical MNE, into the latter, to get $bq^2 = F$. Hence, the equilibrium MNE output per firm is:

$$q = \sqrt{F/b} \tag{12}$$

It is clear from equation (12) that the output of a multinational that locates in the host-country is independent of the bargaining power of unions. However, bargaining power will affect the number of MNEs that eventually locate. This is captured by the following derivative[11]

$$\frac{dN}{d\gamma} = -\frac{(N+M)(N+M+1)(M+1)}{(N+M)^2 - (M+1)\gamma} < 0, \tag{13}$$

which implies that an increase in the bargaining power of unions reduces the number of MNEs entering the country.

Welfare

We now turn to the welfare analysis. In particular, we wish to examine how varying labour standards, in the form of changes in the degree of union power, affect the welfare of both the host and the importing countries. Changes in γ can be thought of as resulting from government actions, such as labour market reforms.

It will be informative to derive the optimal value of the bargaining power parameter, as if chosen by the government *before* the FDI decisions are made. Given that one of our objectives is to determine whether a conflict of interest might arise between the two countries with respect to labour standards, we shall determine the optimal γ both from the point of view of the host country and from the point of view of the importing country. Note, however, that we shall not limit the analysis to the optimal values of γ, i.e. we shall not always choose to model governments as players in a four-stage game. To do so would be both unrealistic – because it would imply that the unions' bargaining power is completely under the control of the policy authorities – and unnecessarily restrictive, because it would prevent us from highlighting the existence of either conflict or congruence of interest between the host and importing countries' governments over the *whole* range of this parameter.

Given that the host country exports all its output to the importing country, its welfare is just total labour rents:

$$W = Nu = Nwq \tag{14}$$

whereas in the importing country it is:

$$W^* = CS + M(\pi^* + \delta\omega q^*), \tag{15}$$

where CS is the consumer surplus enjoyed in the importing country. The weight $0 \leqslant \delta \leqslant 1$ reflects the importance that the government attaches to employment. For instance, if $\delta = 1$, there is unemployment in the importing country and the entire cost of production ωq^* is assumed to be the income of workers who would remain unemployed otherwise. Thus, in general, the *social* opportunity cost of output is $(1-\delta)\omega q^*$. Only if $\delta = 0$, does ω represent the true marginal opportunity cost of output in the economy. This is more likely to be the case if there is a tight labour market.

We proceed by totally differentiating the host country's welfare function to get:

$$dW = q(wdN + Ndw). \tag{16}$$

As the equilibrium output per firm q is constant, from equation (12), changes in the level of welfare can only occur if the wage or the number of MNEs (i.e. the host country market structure) change. Make use of the fact that, from combining equations (8) and (11), $w = \gamma\, bq\, (N+M+1)/(N+M)$ so as to write:

$$\frac{dw}{d\gamma} = \frac{bq}{(N+M)}\left[(N+M+1) - \frac{\gamma}{(N+M)}\frac{dN}{d\gamma}\right]. \tag{17}$$

From equation (17), it is clear that an increase in γ will raise the wage in two ways: the first term in square brackets captures the direct effect; the second term captures the indirect effect that goes through a reduction of the equilibrium number of firms. The fall in N increases each MNE's monopoly power in the product market and thus increases the potential for unions' rent extraction. Stronger union bargaining power raises the wage for a given number of MNEs. However, it will also work to deter investment, reducing the number of firms and hence employment in the high wage MNE sector. The equilibrium number of host country firms $N(\gamma)$ reaches a maximum at $N_0 = N(0)$ and a minimum at $N_1 = N(1)$.[12]

To find the optimal level of γ from the point of view of the host country, proceed by making use of equation (17) in (16) to obtain:

$$\frac{dW}{d\gamma} = bq^2\left[\frac{(N+M+1)}{(N+M)}\gamma - \frac{N}{M+1}\right]\frac{dN}{d\gamma}. \tag{18}$$

It is straightforward to show that the host-country welfare is concave in γ. At γ close to zero the right-hand side of equation (18) is positive, hence the optimal level of γ is positive: it is not optimal to reduce the union bargaining power to zero. Moreover, despite the concavity of $W(\gamma)$, there may not be an interior solution. To see this, note that at γ equal to unity, the right-hand side of (18) is positive if, at that level of bargaining power, the expression in square brackets is negative.

Proposition 1

The optimal level of the bargaining power parameter γ in the host country

(i) is given by:

$$\gamma^o = \min\left(1,\ \frac{N(N+M)}{(M+1)(N+M+1)}\right) \tag{19}$$

and

(ii) is less than unity iff: $M^2 + 2M + 1 + N_1 - N_1^2 > 0$.

An interior solution (i.e. one in which γ^o lies between zero and unity) implies that at $\gamma = 1$, $dW/d\gamma < 0$. Part (ii) of the proposition follows from equation (18) and the fact that $dN/d\gamma$ is negative. To study the factors that make an interior solution more or less likely we could consider the reduced form expression for N_1, which is unfortunately very complicated and hence not readily interpretable. Note, however, that since $N_0 > N_1$, $M^2 + 2M + 1 + N_0 - N_0^2 > 0$ is a sufficient condition for $M^2 + 2M + 1 + N_1 - N_1^2 > 0$ and hence for an interior solution. Making use of $N_0 = T - (M+1)$ (where T is defined in Note 12) we then find that $T(2M+3) - T^2 - (M+1) \geqslant 0$ is a sufficient condition for $\gamma^o < 1$. Holding M constant, the left-hand-side of this inequality is falling in T. Hence, $\gamma^o < 1$ is more likely to hold the smaller is T and thus the higher is F and the lower is ω (see Note 12). A higher level of M usually works towards a larger value of $T(2M+3) - T^2 - (M+1)$ and thus makes it more likely that $\gamma^o < 1$. The host country government will have an incentive to restrict the bargaining power of its unions if it is above its optimal level, that is if $\gamma > \gamma^o$ (of course this is only possible if $\gamma^o < 1$, as the value of γ never exceeds unity). The more competitive is the importing country's industry relative to that in the host country – that is the larger is M, the lower is ω, and the larger is F (that tends to reduce N) – the more likely the host-country government will want to turn to restrictive legislation aimed at reducing the bargaining power of its unions to improve the competitiveness of the local industry.

Before proceeding, it is interesting to note that from the host country perspective there are two externalities arising from the wage bargaining of individual unions. First, when maximizing its objective function, the

individual union does not internalise the beneficial effect that a higher wage has on the utility of the other unions: an increase in the wage faced by its firm raises the other firms' relative efficiency and, thus, the rent extraction ability of the other unions. This externality tends to increase the optimal γ. The second externality, which works towards a reduction in the optimal γ, arises from the fact that a higher wage reduces the number of firms that locate in the host country. This arises because bargaining takes place *after* the entry decision of the MNEs and, as a result, unions do not internalize the effects of the wage on the number of firms. As a result, the host government has in incentive to reduce union power in order to deal with the '*time consistency*' problem, which stems from the sequence of the game, with the MNEs having to make their location decision before the wage bargaining process.

In our model the unions are firm specific. It straightforward to see, however, that a centralized wage process with one union covering the entire sector would result in higher negotiated wages for a given bargaining power. This is because the union would take account of the positive effect of higher wages in one firm on the employment levels (and rents available) in the other firms. As in the case considered here, however, the centralized union would remain unable to overcome the time consistency problem as wages would still be set after firms choose to locate.

We now turn to the effect of host-country union bargaining power on the welfare of the importing country. It is helpful first to analyse how the different components of the importing country's welfare are affected by the level of labour standards in the host country. To this end, it proves useful to find p and q^* as functions of q:

$$p = \frac{a + M\omega - Nbq}{M+1}, \qquad q^* = \frac{a - \omega - Nbq}{b(M+1)}. \tag{20}$$

Note that, from equations (4) and (7), profits of the typical import-competing country firm can be written as $\pi^* = bq^{*2}$ and labour rents are $\delta M\omega q^*$. Thus, from equation (20), both firm and labour rents are decreasing in N and thus increasing in γ. Consumer surplus, on the other hand, is falling in the price and thus, from equation (20), in γ. Therefore, weak unions in the host (less developed) country are in the interest of consumers in the importing (developed) country. Consumers in the importing country (assuming, as we do here, that they are only interested in consumer surplus and are not moved by ethical considerations) always want lower labour standards in the host country, while firms and workers prefer strong unions in the host country. The welfare function is a composite of these two opposing interests.

More formally, totally differentiate equation (15) making use of the fact that: $d(CS) = -Qdp$ to get:

$$dW^* = -Qdp + M[(p - (1-\delta)\omega)dq^* + q^* dp] \tag{21}$$

It is straightforward to rewrite this as:

$$dW^* = -Nqdp + M(p - (1-\delta)\omega)dq^* \tag{22}$$

Recalling that M is exogenous and that, from equation (12), q is determined by F/b (which is a constant), it is clear that both p and q^* depend on γ only through changes in N. It is then possible to use equation (20) and its derivatives in equation (22) to get:

$$\frac{dW^*}{d\gamma} = -\frac{q}{M+1}[M(p - (1-\delta)\omega) - bNq]\frac{dN}{d\gamma} \tag{23}$$

which has the same sign as $[M(p - (1-\delta)\omega) - bNq]$. Clearly, this is more likely to be positive the larger are $(p-\omega)$ and δ and the smaller is Nq. The larger is $(p-\omega)$, the larger is the increase in the importing-country's total profits that stems from an expansion of the output of its firms. The growth in the overall market share held by the importing-country firms is a by-product of a fall in production in the host country that results from the stronger union power and consequent loss of host-country competitiveness. The bigger is δ, (i) the larger are labour rents in the importing country, and (ii) the more likely will an increase in the bargaining power of unions in the host country (with a consequent fall in its production) benefit the importing country. The larger is Nq, that is the higher is the level of imports from the host country, the less likely that an increase in γ will raise importing-country welfare, and the less likely it is that the importing country will oppose low labour standards in the host country. This is because the larger are imports the more consumers in the importing country suffer in higher prices as a result of the increase in labour costs in the host country. The term in square bracket in equation (23) can also be rewritten as $b(Mq^* - Nq) + M\delta\omega$. It is then clear that the derivative is positive if the market share of the importing country exceeds that of the host country.

It can be shown that $W^*(\gamma)$ is convex and hence there is a level of bargaining power that minimizes importing-country welfare.[13] To find the minimum, make use of the fact that $p = w + bq$ from the first-order condition of a typical MNE, and the fact that equilibrium wage can be rewritten as $w = \gamma\, bq\,(N + M + 1)\,/\,(N + M)$, to write $p = w + bq = bq[\gamma + (1+\gamma)(N+M)]/(N+M)$. Use this to eliminate p in equation (23). It is then straightforward

to obtain the level of union strength ($\gamma^{*\min}$) that gives the *lowest* level of welfare from the importing country's perspective:

$$\gamma^{*\min} = \begin{cases} 0 & \text{if } K \leqslant 0 \\ K & \text{if } 0 < K \leqslant 1, \\ 1 & \text{if } K \geqslant 1 \end{cases} \tag{24}$$

where $K = \frac{N+M}{N+M+1}\frac{(N-M)bq+(1-\delta)M\omega}{Mbq}$, and $\gamma = K$ is the unrestricted mathematical minimum of the function. Of course, γ, unlike K, cannot exceed unity or fall below zero. This is why $\gamma^{*\min}$ is not always identical to K. When $\gamma^{*\min} = 0$, then foreign welfare is maximized at $\gamma^{*o} = 1$ (where γ^{*o} is the optimal value of γ from the importing country's point of view), and when $\gamma^{*\min} = 1$ we have $\gamma^{*o} = 0$. If $\gamma^{*\min}$ lies strictly between zero and unity, then γ^{*o} could lie at either extreme – zero or unity. The importing country's welfare minimizing γ is more likely to be zero, and hence γ^{*o} is more likely to be unity, the larger is δ, the weight of employment in the foreign welfare function. From now on, for simplicity, we will set this weight at its maximum level, i.e. assume $\delta = 1$.

The following proposition is concerned with the different impacts of bargaining power on welfare in the host and importing countries. Specifically, it gives sufficient conditions for a convergence and for a divergence of interests between the two countries.

Proposition 2

(i) $N_0 < M$ is a sufficient condition for: (1) $\gamma^{*\min} = 0$; (2) $\gamma^{*o} = 1$; and (3) $0 < \gamma^{o} < 1$;
(ii) $N_1 > (1/2)[M + (9M^2 + 4M)^{1/2}]$ is a sufficient condition for (1) $\gamma^{*\min} = 1$; (2) $\gamma^{*o} = 0$; and, provided $M \geqslant 2$, (3) $\gamma^{o} = 1$.

These two cases, which can be thought of as corresponding to a situation in which the number of multinationals in the host country is small/large respectively, are discussed in turn.

In case (i), where $N_0 < M$, we get a clear divergence of interest between the host and the foreign importing country. In this case, an accusation of social dumping is likely to arise, as the importing country would like the host country unions to have a greater bargaining power than would be optimal from the point of view of the host country government, that is $\gamma^{o} < \gamma^{*o}$. This is because in the importing country the negative effect of social dumping on profits and labour rents is more important than the positive effect on its consumers. It can be shown, from Proposition 1, that when $N_0 < M$ the host government would not want $\gamma = 1$ as this would be too harmful to the competitiveness of firms located there. It is easy to show that $N_0 < M$ implies $T-(2M+1) < 0$ (see Note 12). This inequality is more likely to hold the smaller is ω, the marginal cost of the importing-country

firms, and the larger is F, the set-up cost of the MNEs; that is, the higher is the relative cost of choosing the host country as a location.[14] An improvement in outside options for the MNEs will raise F and make it more likely that the host government will wish to pursue policies that will bring a charge of social dumping.

In case (ii) of Proposition 2, when $N_1 > (1/2)[M + (9M^2 + 4M)^{1/2}]$, the number of MNEs that can be supported is sufficiently large relative to the number of the importing country's firms for K to exceed unity and thus, as we have explained, for $\gamma^{*o} = 0$. This condition is more likely to hold the larger is ω and the smaller is F. In this case, the relative importance to the importing country's government of profit and labour rents is now much lower than in case (i) above and consumer interests dominate. In this case, the importing country would not initiate a social dumping complaint since it is to its advantage that labour standards in the host country be even lower than it would be optimal for that country to impose.

Unions and Endogenous Wages in the Importing Country

In the interest of tractability, so far we have assumed that unions exist only in the host country and have treated the wage in the importing country as exogenous. However, it is plausible to think of the host and the importing country as representing a developing and an industrial economy respectively – with the latter arguably being even more likely to be unionized than the former.

Allowing for unionization in the importing country adds interesting dimensions to our analysis, not least because unions in industrialized economies perceive their rent extraction ability as being affected, via both trade flows and FDI, by the bargaining power of workers (or the lack of it) in developing countries that produce competing goods.

Analytically, the major implication of allowing for unions in the importing country is to endogenize marginal costs there. To simplify, we assume that unions in the industrialized importing country have *maximum* bargaining power when setting the wage w^*.[15] We continue to assume that labour is the only variable input used in production. In order to allow the countries to have a different labour productivity, we continue to normalize the host-country labour requirement at unity, but set the labour requirement in the importing country at β.

The typical importing country firm will now have a marginal production cost of $\omega_k = w_k^* \beta$, and its profits will be:

$$\pi_k^* = (p - \omega_k) q_k^*. \tag{25}$$

The typical union in the importing country is assumed to be interested in maximising labour rents and has a utility function:

$$u_k^* = \omega_k q_k^*. \tag{26}$$

The union chooses w_k^* (or equivalently ω_k) to maximise u_k^*, at the same time as unions in the host country.

In stage one, the MNEs anticipate wages and enter the host-country until profits from doing so are driven to zero.

The model with endogenous importing-country wages is much more complicated algebraically. Hence, we needed to solve the model numerically. Our simulations indicate that the effect of host-country union bargaining power on host-country welfare is qualitatively similar to that in the basic model. In addition, we continue to have $dN/d\gamma < 0$ (although the exact expression is now much more complicated algebraically). Simulations show that a high M and a low N_0 continue to work towards an interior optimal γ. Hence, as before, the stronger the competition facing the host-country (reflected in a high M), the stronger will be the host country government's incentive to try to limit the bargaining power of domestic unions.

More interesting is to study how the effects of changes in host country's union power on the importing country's welfare are affected by the presence of unions in the latter. Modifying the importing country's welfare to include unions' utility:

$$W^* = CS + M(\pi^* + u^*) \tag{27}$$

the effect of γ on W^* can now be written as:

$$\frac{dW^*}{d\gamma} = [Mp - bNq]\frac{dq^*}{d\gamma} - Nq\frac{d\omega}{d\gamma} \tag{28}$$

Compared to the basic model there is an additional negative term, $-Nq$ $(d\omega/d\gamma)$, on the right-hand side. An increase in bargaining power in the host country has a negative impact on the importing country's welfare via an increase in its wages. A larger γ raises w and this allows the unions in the importing country to raise wages. The higher w^* reduces total surplus in the importing country through an increase in price and a consequent fall in consumer surplus, and through a fall in profits. Although importing country unions gain from the increase in bargaining power of unions in their trading partner, this gain is more than compensated by the fall in consumer surplus and profits that is due to the higher wages. Thus, perhaps paradoxically, unions in the importing country and the consequent endogenous wages that they imply make it less likely that the importing country's government will wish to charge the host country with social dumping. An interesting conflict of interest emerges, however, *within* the importing country: whilst labour interests fear social dumping, consumers do not have a strong incentive to endorse arguments (which may often be couched in ethical terms) in favour of raising labour standards in developing countries. This analysis is of course based on the simple additive welfare function in (27) and ignores possible political economy issues, whereby (for instance) the interest of

unions and firms may have a stronger impact on the actions of the government than the interest of consumers has.

Summary of the Results and Conclusions

This paper has shed light on the implications of using labour market regulation to affect the location decisions of multinationals. The focus of our analysis was on (1) a (developing) country government's incentive to try to affect the bargaining power of unions in an attempt to attract foreign direct investment and (2) the conflict of interest that might arise between and within countries with respect to social dumping.

Our results go somewhat against the conventional wisdom in suggesting that, despite the fact that governments often see them as an impediment to successful competition in world markets, it is unlikely ever to be optimal for a (developing) country that tries to attract FDI to drive the power of its unions to the lowest level possible, even though this would maximize FDI. Indeed, there are circumstances in which the government may have an incentive not to restrict the bargaining power of unions, but rather to encourage it to the full. These results ultimately reflect the trade-off that the host country government faces between using its unions as a means of extracting rents from foreign multinationals and the desire to attract foreign investment to the country. We show that the incentive to try to restrict unions' degree of bargaining power will depend on the competitive position of the host country relative to its trading partner: the higher is the cost of production in the host country relative to the importing country, the more likely it is that the host country government would find it optimal to turn to restrictive union legislation to improve the local industry.

Overall, importing industrial economies will be more likely to oppose low labour standards in competing developing countries (1) the less exposed to (or dependent on) imports from the latter they are, and (perhaps surprisingly) (2) the greater the relative cost competitiveness of their domestic firms.[16] We also found, paradoxically, that unions in the importing country and the consequent endogenous wages that they imply make it less likely than the importing country's government will wish to charge the host country with social dumping. Social dumping abroad helps discipline wage demands at home. Of course, this analysis is based on a simple additive welfare function and, in practice, the interests of unions and firms may have a stronger impact on the actions of the government than the interests of the consumers have.

Finally, not only is the rhetoric of the arguments about international differences in labour standards often suggestive of a divergence of interest between industrialized and developing countries, but it also betrays a variety of conflicting attitudes *within* countries. Our model contributes to our understanding of these differences. In the absence of ethical and/or political economy considerations, our findings suggest that a divergence of interest

will typically emerge in importing countries between consumers, who favour social dumping, and firms (and their workers) which prefer unions in competing developing countries to be strong.

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Notes

[1] As highlighted by recent reports by the ILO (1997) and the International Confederation of Free Trade Unions (2004), governments increasingly perceive unions as an obstacle to successful competition in goods and foreign investment markets and make attempts to restrict their power and workers' rights. This has typically led to a widespread drop in union membership and in a tendency to decentralization in union bargaining (ILO, 1997). Despite this, however, in many instances unions' influence is still strong, particularly at the sectoral level (both in industrialized and developing countries) and many MNEs (e.g. Nike and Gap) have extended common 'codes of conduct' to workers in their LDCs' operations and subcontracting relationships (ILO, 1997).

[2] See Barry and Bradley (1997) for the Irish case.

[3] Compliance to this core labour standard means that governments should not punish workers who use the threat of strikes to strengthen their bargaining position with employers and that they should have enforcement mechanisms in place to prevent employers from taking action against workers who strike. Hence, for instance, legislation that allows employers to hire permanent replacements for striking workers violates this core labour standard.

[4] A notable exception is Bagwell and Staiger (2001).

[5] See for instance: Zhao (1995, 1988), Naylor and Santoni (1998), Leahy and Montagna (2000a).

[6] This export platform setting is as in Lahiri and Ono (2003).

[7] Allowing for these firms to become multinationals and/or relocate to the host country would not qualitatively alter the welfare results of the paper.

[8] Since we allow for the possibility that there is unemployment in the developed country, the absence of unions should not be taken to imply that the labour market in this country is more flexible than that in the developing country.

[9] Clearly, union utility could take some alternative forms. However, we believe this is the simplest, least controversial, and the one most commonly used in the literature. It is clear that if, ceteris paribus, employment in the firm were to receive a higher (lower) weight than the wage then the negotiated wage would be lower (higher).

[10] For simplicity we assume that the conflict payoffs of the firms and unions are zero.

[11] Equation (13) is obtained by combining equations (8) and (11), substituting into equation (12) and then using the implicit function theorem.

[12] It can be shown that: $N_0 = T-(M+1)$ where $T=(a+M\omega)(bF)^{-1/2}$. Hence, for $N \geqslant 1$, we need $T \geqslant M+2$.

[13] To see this, take the second derivative of the welfare function with respect to γ and evaluate it at the point at which the first derivative is zero. It is easy to check that this is positive.

[14] It is worth noting that, other things equal, a larger M does not, per se, make this case more likely. If the cost competitiveness of the importing country's firms is relatively low (i.e. ω is large), dN/dM is positive.

[15] An extension that considered a game between the governments in setting bargaining powers would be possible. However, as we argued earlier, it is probably unrealistic to assume that the bargaining power of a union is completely under the control of the policy authorities.

[16] Clearly, oppositions to social dumping in this model are effectively based on strategic trade considerations that stem from the imperfectly competitive framework. In a perfectly competitive model there would be no rent shifting incentive to oppose social dumping, because of the terms of trade improvement (which may explain the conventional wisdom amongst economists).

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