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MULTINATIONAL ENTERPRISES IN AN INTEGRATED GLOBAL ECONOMY: A CHALLENGE FOR TRANS-NATIONAL TRADE UNIONS COOPERATION

Domenico Buccella*
PH.D. CANDIDATE IN ECONOMICS, UNIVERSITY OF SIENA

Abstract:

Up to its current stage, globalization seems to have led to a process of growing economic integration which has allowed for an increase in the volume of regional and international trade as well as for an increase in the degree of regionalization and internationalization of capital mobility. Multinational Enterprises (MNEs), by moving capital around the world, are able to capture global advantages putting labor markets under pressures and creating the possibility that governments and trade unions engage in a "race to the bottom" regarding the regulation of labor standards and conditions. This work reviews the relevant literature on the strategic interaction between MNEs and trade unions within the spheres of international trade and production. Role, strategies and challenges that trade unions have to face in the next future, both at the regional (European) and global level are analyzed. Keywords: Globalization, Multinational Enterprises, international trade and production, international trade unionism.

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"The world has become a huge bazaar with nations peddling their work forces in competition against one another, offering the lowest price for doing business. The buyers, of course, are multinational corporations" Thomas R. Donahue, (1994: 47).

"Many outcomes are possible, and at any time both competition and solidarity will be manifested in different trade union responses to globalization...both nationalism and internationalism are possible responses to the internationalization of capital" Jane Wills, (1998: 111).

1. INTRODUCTION

The increasing integration operating within the international economic and political spheres has been accompanied by a growth of international trade affecting both the flow of goods and services, and the mobility of labor (e.g. workers). Moreover, the deregulation of international capital markets has allowed for an even greater mobility of capital leading to the disintegration of the process of production of both, goods and services. Multinational Enterprises (MNEs) become a major actor within globalization. They are not only able to move capital around the world in order to capture global advantages from lower production

* buccella@unisi.it

costs but they are as well able to use a credible threat; they can threat to delocalize part of their real assets and production processes in order to obtain favorable regulations from governments and concessions from trade unions.

In this situation, governments and trade unions could be engaged in a sort of "race to the bottom": governments subsidizing production in their countries, cutting corporate taxation or conceding tax holidays, decreasing labor regulations and the welfare state and so on; trade unions accepting wage cuts, increases in the amount of working hours and refusing to demand bonuses and other benefits as ways of concession bargaining. Thus, apparently, workers bear the heaviest burden of globalization. For, as previously said, governments, in order to capture foreign investment and to attract international production, tend to concede favorable conditions to MNEs, leading to a relatively uneven and disproportionate taxation affecting the most immobile factor of production, namely, labor. Indeed, workers are affected in two different ways: by MNEs, through the threat of undertaking international activities and of shifting production elsewhere and by governments which due to their budget constraints may find themselves forced to increase taxation. Trade unions are called to face great challenges posed by globalization. A trans-national trade union cooperation strategy is invoked against aggressive strategies adopted by MNEs.

The work is organized in the following way: Section 2 analyzes the impact of globalization on labor markets describing the two channels through which these markets are affected; Section 3 is devoted to addressing some terminological issues. Section 4 discusses the decisional process and the fundamental determinants in the case of international activities undertaken by MNEs. Section 5 describes two correlated phenomena to MNEs' activities. Section 6 and 7 present a short review of the theoretical literature about the strategic interaction between firms and unionized labor markets with respect to both international trade and production. Section 8 analyzes the role of trade unions and the challenges that trade unionism have to face in the next years. Section 9 concludes.

2. CONSEQUENCES OF GLOBALIZATION ON LABOR MARKET

Globalization is a term which has many meanings . But, one possible basic definition may be that which views it as the evolution of an economic integration among different production systems and processes (markets). Different factors of different nature are at the basis of this phenomenon. Technological changes

[1] Some authors (Pizzuti, 2001) stress the fact that globalization is not a new phenomena and prefer to call it Neo-Globalization in order to distinguish this new wave of globalization with respect to the one occurred at the beginning of the last century and to highlight the parallelism with the recurrent editions of free market economics.

such as those involving the improvement of transportation and communication technology, political factors like the reduction of tariffs and barriers on international trade (not only through multilateral GATT negotiations, but also through unilateral moves effectuated by developing countries), as well as liberalization of capital markets which have allowed for the possibility to create international chains of production, have played a fundamental role in integrating the world economy.

Starting from the 60s, two key aspects of the growing integration within the global economy have been: the increase in international trade -included the massive participation of developing countries, relatively rich in unskilled labor- and the internationalization of capital mobility. Starting from the 80s onwards, both aspects have generated a substantial reduction in the demand for low-skilled workers within the developed world; although this may have taken different forms as in the case of the US labor market characterized by higher flexibility, widening inequalities between skilled and unskilled workers, and by relatively decreasing real wages for unskilled workers, or as in the case of the OECD-European countries where, given the relatively constant real wages preserved at the bottom of the skill distribution, an increase in unemployment rates for the less skilled has been the rule (Freeman, 1996).

According to Rodrik (1997), there are two channels through which globalization affects labor markets in developed countries. The first (and until recently, the most common in the literature) is a change in the relative demands for skilled and unskilled workers; technically speaking, implying an *inward shift* in the demand curve for unskilled workers[2]. The second channel (and recently, the most investigated one) has to do with the ease with which domestic workers can be replaced by workers from abroad either by means of trade, or through the phenomenon of internationalization, relocation and delocalization of production via Foreign Direct Investment (FDI); technically speaking, in this case, international trade and production have *flatten* the domestic labor demand which has become

[2] Starting from the 90s, there has been a huge debate on the causes of the inward shift of labor demand for unskilled workers with opposing trade versus technological theories. Supporters of the trade theory are Batra (1993), Leamer (1993, 1994) and Wood (1994, 1995). Supporters of the technological approach are Lawrence and Slaughter (1993), Krugman and Lawrence (1994), Krugman (1995), Sachs and Schatz (1996). Sceptical about the trade theory is also Freeman (1995). But, as Rodrik (1997) argues: "[...] Note, moreover, that it is difficult to treat technological change as being completely *independent* from trade. Trade may act as conduit for technology and create pressures for technological change. [...] Statements of the sort "trade has been of secondary importance compared with technical change are therefore inaccurate".

more elastic, allowing employers to react to changes in wages by substituting workers, or simply by means of outsourcing and investments abroad[3].

Thus, employers and, in particular, enterprises having the possibility to move (relatively) fast from one country into another like, for instance, multinational enterprises, can threaten employees in order to obtain concessions from a bargaining, increasing the relative power *vis-à-vis* workers and trade unions (EIRO 2003, 2004a, 2004b, 2004c, 2004d, 2005, 2006; Galgóczi et al. 2005; Eurofound, 2006)[4].

3. MNES' INTERNATIONAL ACTIVITIES: TERMINOLOGICAL ISSUES

At this point of the discussion, some terminological definitions are needed, starting with the concept of Foreign Direct Investment (FDI) that, normally, is the first indicator of the process governing the choice connected with the MNEs' decisions of outsourcing and relocation. The OECD definition (used by IMF and Eurostat) of FDI is: "FDI reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in a entity resident in an economy other than that of the investor ("direct investor enterprise"). It can cover the transfer of ownership, but also equity capital, reinvested earnings, other capital (e.g. loans)". Hence, FDI is a term that covers a wide variety of international capital movements, including mergers, acquisition, inter-company loans, but also the establishment or extension of foreign production sites. In any case, the term FDI involves activities that presuppose the establishment of a long-term relationship with the foreign partner and it is used as a general "trend" indicator rather than as a direct indication of outsourcing or relocation processes of production.

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[3] A strand of literature on international economics studies and debates whether or not trade and FDI are complements or substitutes for a MNE providing to a distant market (Markusen, 1997, 2002; Collie and Vandenbussche, 2001). The analysis of this work wants to stress that both, trade and FDI, have equivalent impacts on labor markets.

[4] In summer 2004, the German company *Siemens* had announced the relocation to a Hungarian plant of a volume of production involving 2.000 employees working at two mobile phone plants in Germany. The reason indicated by the management of *Siemens* was that German labor costs were 30% higher with the respect to Hungarian labor costs, due to higher wages and shorter working hours. However, off-shoring was eventually prevented by a deal that introduced some measures, including an increase in weekly working hours from 35 to 40 with no compensation and the substitution of some existent bonuses with performance-related pay. At the same time, the agreement granted job protection for two years and envisaged an additional investment of EUR 30 million in the two plants. Other cases of relocation and the role played by industrial relations are analyzed in Eurofound (2006).

Two other key terms are outsourcing and off-shoring. Outsourcing is defined as a shift in control over production by means of contracts with non affiliate firms involving both existing and new activities. Off-shoring occurs when a firm moves existing or new economic activities abroad. This can take place within the firm towards a subsidiary, or it may concern outsourcing as well. The relation between outsourcing and off-shoring is presented in Table 1.

Table 1. Outsourcing and Off-shoring

		Location	
		National	*International*
Control	*Affiliated firm*	Internal domestic supply	Internal off-shoring (internal cross-border supply)
	Non-affiliated firm	Domestic outsourcing (external domestic supply)	International outsourcing (external cross-border supply)

Source: Galgóczi et al., (2005).

The term relocation of production refers to the internationalization or off-shoring process which occurs when economic activities are shifted towards foreign locations. It makes no distinction about the type of control since it could be through direct ownership (intra-firm cross-border investment) or through international outsourcing. Rather, it focuses on the question of substitution. Thus, relocation, defined this way, implies a process of off-shoring having a substitution effect upon domestic processes, including employment as the most relevant variable (Galgóczi et al., 2005).

4. MNES' INTERNATIONAL ACTIVITIES: DETERMINANTS

As previously indicated, FDI is used as a general "trend" indicator of the possibility for MNEs to shift their activities from one country to another. The determinants of MNEs' management decisions regarding why, how, and where to move within the international sphere are of several different nature and, of course, vary over time.

At the end of the 80s –and the beginning of the 90s–, FDI was an instrument for MNEs to avoid taxation of international trade, starting production in those places from where there was an important demand for their goods and where the creation of economic blocs was predicted; for instance, the establishment of custom unions or the increase of import tariffs (tariff jumping), etc. Recently, other determinants of the location of an affiliate or of the delocalization of some activities may happen to be more relevant than the mere participation of a country within an economic bloc. Thus, many are the features characterizing different models of MNEs. Based both on the identification of the main

determinant and nature of operations and activities of their affiliates in a country, MNEs can conduct two types of FDI: horizontal FDI and vertical FDI[5].

In the case of horizontal FDI, MNEs replicate the same production process within a foreign country to guarantee a greater access to the host market or, simply, with the intention of taking advantage of the affiliate as an export platform so as to allow for a greater penetration within additional adjacent markets which are expected to grow (e.g. market access). When MNEs conduct vertical FDIs, they organize a vertical division of labor between the domestic and host countries in order to exploit differences in factor endowments (or access to resources) and in efficiency (or productivity) seeking, at all times, to optimize value chains (Sachwald, 2005; Jovanović, 2006).

If the decisional process to undertake international activities and the choice of a new location are treated in a quite straightforward way in the public debate, in reality, these are complex phenomena. Not only firms which decide to change their previous locations, but as well firms that take decisions in order to begin international business, have in mind an "ordered set" of qualifications that the new location must satisfy. If more than one location possesses the first qualification, then the firm goes down in its list to the second most important characteristics and verifies if among the remaining possible candidates this qualification is met.

This procedure is iterated until the location that satisfies all the characteristics that the firm needs is identified[6]. Hence, the management of an MNE in order to take decisions whether or not, and within which location, to undertake new international activities, needs a comparative analysis among different locations, evaluating costs and constraints as regulatory barriers, other firms' specific barriers like size or access to financial markets, cultural aspects, the appropriateness of geographic distribution of skill labor and other factors (McKinsey, 2005), including benefits in terms of "cost advantages" like low labor costs, lower capital-investment costs, lower domestic sourcing costs and governments incentives (Bhattacharya et al. 2004; EEF, 2005).

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[5] In the knowledge-capital model developed by Markusen (1997, 2002) FDIs are not driven by reasons related to market access or factor endowments. Rather, FDIs are driven both by factor costs and market access; the KC model incorporates both vertical and horizontal FDIs. Recently, the validity of the KC model has been tested by the empirical works of Braconier et al., (2005a, 2005b).

[6] An interesting empirical work on determinants for relocation and destination choice for the case of Belgian industries is Sleuwaegen and Pennings (2006).

Whatever are the determinants to undertake international businesses and the qualifications for the choice of location, this decisional process is related to different kinds of situations, exemplified by three circumstances (EIRO, 2006):

1) a long-term trend whereby certain activities face a steady decline in a particular country and domestic production is substituted by imports either from foreign competitors or domestic producers relocated abroad;
2) a reorganization of MNE production among different plants located within different countries, optimizing their value chains, depending on internal company structures as well as on the opportunities provided by local conditions;
3) a decision of discontinuing production in one location and transferring it to a new one abroad, capturing local advantages.

However, recent studies focused on European MNEs suggest that international activities are not the most common type of restructuring; but they are actually, only, the third most common type (Galgóczi et al., 2005; EIRO, 2006; Kalotay, 2004, 2006)[7]; European MNEs rather prefer internal restructuring, even if the structural characteristics, the potential for international business and the direction of international activities may change in the next years (Hunya and Scwarzhappel, 2006; Rojec and Damijan, 2005; UNCTAD, 2005).

5. MNES' INTERNATIONAL ACTIVITIES: CORRELATED PHENOMENA

Not only actual but, as well, credible threats of international mobility of production might trigger forms of concession bargaining and lead to a sort of "regime shopping", whereby MNEs search for the location that they believe can guarantee themselves the most convenient regulatory regime. In the meanwhile, governments and trade unions find it increasingly hard to oppose and resist the demands for deregulation of labor markets and reduced labor protection, provided they are not only forced to preserve existing jobs and economic activities but, as well, they are committed to attract new ones at the cost of acting in such a way so as to change firms' "ordered sets" [8].

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[7] EIRO (2006) based on data from the European Restructuring Monitor (2005).

[8] Choi (2001, 2006) explores the impacts of "threat effects" of FDI on labor markets in the United States. In his empirical works, using a "union wage premium" as a dependent variable, he shows that firms belonging to those industries having greater possibilities to relocate all or part of their activities to another plant in a different location improve their bargaining position when facing trade unions.

From this perspective, a possible outcome of such a pressure on regulatory frameworks may be a sort of "race to the bottom" in terms of labor standards, incurring in forms of "social dumping". "Regime shopping" could be defined as a set of instruments through which a government tries to attract foreign capitals by offering the most convenient regulatory regime, including reductions on corporate taxes, tax holidays, subsides to foreign investment, and the construction of "fiscal heavens", leading countries to what is called "tax competition"[9].

"Social dumping" is characterized by diverse elements. One major issue, the "flight of capital to low-cost areas" (Ehrenberg, 1994), refers to the study of how the possibility of relocating production plants out of a country affects the nation's welfare. In this case, "social dumping" is defined as the decision by a domestic firm to serve the domestic market through a plant located in a foreign country, where, perhaps, workers' protection does not meet domestic standards and labor costs are significantly lower.

Another issue regarding "social dumping" is related to the export of a good from a country known for its weak or poorly enforced labor standards, provided the exporter has costs that are much lower than its competitors operating within higher standard countries. This constitutes an unfair cost advantage in international trade. Finally, "social dumping" could be the result of the reduction of domestic wages in order to attract foreign investments (Barros and Cabral, 2000); peripheral countries, in order to reduce unemployment, may have an interest in subsidizing foreign firms to induce them to serve domestic demand by means of local production. In this case, "social dumping" is treated in the same spirit of "tax competition"[10].

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[9] There are a large number of contributions regarding the literature on tax competition. However, although undoubtedly being a topic of great interest, it will remain out of the scope of this paper.

[10] The "social dumping" argument does not work only when referring to goods produced in developing countries. The debate on social dumping, in Europe, started after the UK, under the conservative governments of John Major, did not sign the European Social Charter in 1992. The year after, in 1993, the American multinational Hoover decided to relocate its production from France to Scotland, due the lower levels of non-wage labor costs as well as due to the higher flexibility assured by Scottish workers in terms of pay and working time (EIRR, 1993). This explains why the term "social dumping" is quite popular within European countries, and why nowadays it is becoming fashionable with the EU enlargement which includes Central and Eastern European Countries (CEECs) and with the "rise of East" economies (EEF, 2005) like China and India; countries where wages and labor standards are much lower with respect to Western Europe. On "social dumping" see Boccard et al. (2003), Busse (2002), Cordella and Grilo (2001), Corden and Vousden (2001), Ehrenberg (1994), Golub (1997), Jerger (2002) and Martin and Maskus (2001).

Thus, trade unions and governments, in order to attract investment from abroad to generate further domestic employment, and by using the cost advantage argument, could take some measures either by cutting direct or indirect costs of labor[11], or by reducing labor standards ("core" labor standards and other labor standards like minimum wages and unemployment benefits; in a word, the Welfare State)[12]. Regarding the "social dumping" phenomenon, two actors must be taken in consideration, they are governments and unions which can generate two different kinds of dumping: welfare dumping and wage dumping (Sinn, 2001).

Next sections are devoted to the strategic interactions between firms and unions, strategic interactions between unions, and the role of unions within the international economy; presenting a review of the literature concerning international trade and production in an unionized framework.

6. INTERNATIONAL TRADE IN UNIONIZED COUNTRIES: A REVIEW

A first strand of the literature in international trade takes in consideration the union-firm interaction in a Nash bargain framework. These models focused their attention on the analysis of wage and employment determination and in the effects of trade protection on them (Brander and Spencer, 1988; Mezzetti and Dinopoulos, 1991; Gaston and Trefler, 1995).

Another class of studies, though within different contexts and concerned with different phenomena related to economic integration, product market competition, reduction in trade costs, income distribution among factors of production, etc., consider the strategic interaction between unions (Huizinga, 1993; Naylor, 1998, 1999). Generally, these models have different assumptions regarding demand and production technology including homogeneous goods or a single good, but they are constructed considering symmetric countries and the following structure:

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[11] According to the Eurostat definition, direct costs are gross wages per hour, including employees' contributions to social security, overtime supplements, shift compensation, regularly paid premia, pays for vacation and national holidays, year-end bonuses and similar items. Indirect costs are the employers' contributions to social insurance, sick pay schemes (statutory social security) and non statutory payments made by the employers under agreements, contracted or voluntary payments and other social expenditures.

[12] Core labor standards, as defined by the ILO declaration in 1998, are: the right to collective bargaining, prohibition of forced labor, prohibition of discrimination in employment between genders and prohibition of child labor.

1) firms choose the profit maximizing quantity independently for each market, given the quantity of the other firm (Cournot competition assumption) and face a monopoly trade union which has as objective rent maximization;

2) there is full unionization and each union competes within a Bertrand or Stackelberg wage setting game against other unions.

The qualitative results of these models are obtained solving a two-stage game by backward induction[13], within which, in stage 2 the firm sets the output and could choose employment given the wage set by the trade union ("right-to-manage") and, in stage 1 each union chooses a wage in order to maximize its rent[14].

As an example of this literature the work of Naylor (1998) is presented[15]. In a context of reciprocal international trade between economies with imperfectly competitive product markets and unionized labor markets, the author shows that a reduction in trade costs leads monopoly unions to set higher wages; in other words a more competitive product market does not necessarily generate a more competitive labor market. There are 2 identical countries ("A" and "B") within each there is one firm (firm 1 in country "A", firm 2 in country "B") producing some non-differentiated commodities, "C". There is a constant cost of "*t*" per unit of commodity exported and each firm regards each country as a separate market, choosing, separately, the profit maximizing quantity for each market while taking as given the quantity of the other firm (Cournot assumption). Each firm faces a monopoly trade union which has as objective rent maximization, and each union comprises all the workers employed by its respective firm. Each firm has the "right-to-manage"; that is, each firm could choose the employment level given the wage set by the trade union. Firms' profits can be written as

$$\Pi_1 = (p_A - w_1)x + (p_B - w_1 - t)u \qquad (1)$$

[13] The game is solved by backward induction in order to obtain sub-game perfection.

[14] A different approach is presented in a recent work by Dube and Reddy (2006). In their article, the authors use a bargaining approach involving no strategic interaction between unions. In the first stage of the game, symmetric unions and firms bargain on wage levels, assuming that each union at the plant level takes as given the vectors of wages corresponding to the other firms. In the second stage, firms, given the wage previously determined, simultaneously set employment and the output level (under the right-to-manage assumption), allowing for competition among firms to take a Cournot form. They use this approach in order to study the effects of greater product market competition, induced by trade liberalization, on the income distribution between factors of production, namely, through wages and profits.

[15] Naylor (1999) uses the same framework but he analyzes a wider set of strategy possibilities trade unions can play.

$$\Pi_2 = (p_A - w_2 - t)y + (p_B - w_2)v \quad (2)$$

where "p_i" is the price of commodity "C", "w_j" is the wage paid by firm "*j*", "*x*" is the production by firm 1 for consumption in "A", "*u*" is the production for consumption in country "B", "*y*" is the production by firm 2 for country "A" and "*v*" is the production by firm 2 for country "B". The product demand is assumed linear.

Unions' utilities are

$$U_1 = (w_1 - \bar{w})(x + u) \quad (3)$$

$$U_2 = (w_2 - \bar{w})(y + v) \quad (4)$$

where "$\bar{w}$" is the reservation wage. Solving a two-stage game by backward induction, within which, in stage 2, firm sets output and employment given the wage rate and, in stage 1, each union chooses a wage in order to maximize its rent, the author is able to show that the equilibrium level of wage is such that $\partial w_j / \partial t < 0$, and hence, an increase in economic integration allows trade unions to set higher wages.

This class of microeconomic models discussed until now takes into account the strategic interaction between firms and unions, but it does not consider the eventual cooperation between unions. One of the first works that attempts to examine the incentive for trade unions to cooperate at international level, facing the increase in international economic competition between firms due to economic integration, is the macroeconomic model by Driffil and van der Ploeg (1993). They analyze a two-country model of international trade with barriers; firms in each country produce a homogeneous good and specialize in the production of their own exportable. The domestic good and the foreign good are imperfect substitutes in consumption. There are no assets, so equilibrium always requires balanced trade and monetary issues need not be considered. Labor factor is immobile. The authors consider three types of unions: decentralized trade unions, centralized trade unions and international trade unions. Trade unions maximize a utilitarian utility function which depends on employment and consumption wage:

$$V\left(\frac{w}{p},\bar{l}\right) \equiv L(w)v\left(\frac{w}{p}\right) + [\bar{l} - L(w)]\bar{v} \quad v' > 0 \quad v'' \leq 0 \tag{5}$$

where "$\bar{l}$" is union membership and "$\bar{v}$" is the utility of leisure time. Assuming that the union's members have only a wage income, the utility of each member is linear in consumption wage,

$$V\left(\frac{w}{p}\right) = \left(\frac{w}{p}\right) \tag{6}$$

Wages are set according to the following general rule:

$$\left[\frac{v\left(\frac{w}{p}\right) - \bar{v}}{v'\left(\frac{w}{p}\right)\left(\frac{w}{p}\right)}\right] = \left(\frac{1 + \varepsilon - \varepsilon^*}{d}\right) \tag{7}$$

which, given (6), becomes

$$w_i = p_i \frac{\bar{v}}{\left[1 - \left(\frac{1 + \varepsilon - \varepsilon^*}{d}\right)\right]} \tag{8}$$

where:

the subscript $i = D, C, I$ represents decentralized, centralized and international setting;

$\frac{1}{d} \equiv \left[\frac{-L(w)}{wL'(w)}\right]$ denotes the inverse of the elasticity of labor demand with respect to the real product wage;

$\varepsilon \equiv -wP_w / p > 0$ if $i = C, I$ and equal to zero if $i = D$, is the elasticity of CPI with respect to the domestic product wage;

$\varepsilon^* \equiv -w^* P_{w^*} / p > 0$ if $i = I$ and equal to zero if $i = D, C$, is the elasticity of CPI with respect to the foreign product wage.

In the case of decentralized unions (*D*), they are so small that the effect of raising wages on the consumer price index (CPI) is ignored; centralized unions (*C*) internalize the effects of raising wages on CPI; when unions are centralized and cooperate with unions abroad (*I*), they internalize the adverse effects of a wage increase on the utility of unions abroad, and, in equilibrium, cause lower wages than centralized unions. Given their definition of CPI.

$$p = \left[(1-\alpha)^b + \alpha^b (te)^{1-b}\right]^{\frac{1}{1-b}} \qquad (9)$$

that depends on the tariffs "*t*" and on the elasticity of substitution between domestic and foreign goods "*b*", the authors are able to show that in symmetric equilibrium $w_C > w_D = w_I$ [16]. They show that for the case of Cobb-Douglas preferences, an increase in international competition (a reduction of *t*) leads to a rise in inefficiencies from the absence of international cooperation between unions, and these inefficiencies are larger when the share of imported goods in total consumption is large and when the aggregate supply curve is very elastic.

In another macroeconomic model by Danthine and Hunt (1994), the foreign sector imposes greater product market competition which serves to moderate union wage increases. Using the utility function in equation (5) but modeling an increase in international competition as an increase in the substitutability in preferences between the two countries' basket of goods, they found that the hump-shaped pattern in the relationship between economic performance and the degree of centralization in wage bargain flattens out. These models analyze the role of international coordination without taking into account the strategic interaction with firms (Driffil and van der Ploeg, 1993; Danthine and Hunt, 1994).

[16] This corresponds to an international version of the result of Calmfors and Driffil (1988) of the hump-shaped relationship between wages and the degree of corporatism.

It is crucial to note that all models discussed until now have been based on the hypothesis that countries are symmetric[17]. Asymmetries and a deeper inspection of strategic interactions between actors operating with international trade represent promising fields of research.

7. INTERNATIONAL PRODUCTION IN UNIONIZED COUNTRIES: A REVIEW

The interaction between unionized labor markets and international activities related to the internationalization of production through FDI has received little attention. Generally, the two subjects have been studied separately. The general approach to analyze the union-firm interaction in the determination of wages and employment is the bargaining approach, examining the impact of FDI[18]. Intra-industry reciprocal FDI and the presence of unions in the labor market are allowed (Zhao ,1995,1998; Naylor and Santoni, 2003)[19].

Zhao (1995) constructs a partial equilibrium model of intra-industry cross-hauling FDI with unionized duopoly, within which wages and employment are determined through Nash bargaining between firms and national labor unions. In the benchmark case[20] which involves unionized labor markets without FDI, the profit for each firm is equal to.

$$\Pi = (P - W)q \text{ with } q = X, Y \text{ and } P = P(X + Y) \qquad (10)$$

[17] One exception is Fisher and Wright (1999). In their work, they study a three-country model where one of the three countries is non-unionized. They show that a country with a union benefits from trade liberalization with a country that also has a unionized work force, while liberalization of trade between a country with a union and a country with a competitive labor market always makes the country with a union worse off.

[18] A peculiar approach is adopted by Leahy and Montagna (2000). They focus on the product market interaction between a MNE and domestic firms examining the effects of different degrees of wage setting centralization on the incentive of a MNE to locate in a host country. They found that without market interaction, the centralized wage is always lower than the decentralized wage paid by the MNE, because, even without market interaction, centralization generates a labor market link between the MNE and domestic firms. Taking this link into account, the union decides to limit rent extraction from the MNE in order to maintain employment in the less efficient domestic sector. This would not occur if the wage is set in a decentralized way. The results are reversed in the case of market interaction between the MNE and domestic firms; in this case, the cooperative behavior of unions in the centralized wage setting process is capable of increasing the wage level.

[19] Notice that the game played by firms in order to take the decision whether or not to undertake an FDI is a non-cooperative game.

[20] Zhao builds his model on Mezzetti e Dinopoulos (1991).

with "*X*" and "*Y*" the two homogeneous goods. Union utility is given by the following Stone-Geary function:

$$U(W,q) = (W - \overline{W})^{\theta} q^{\gamma} \tag{11}$$

where "$\overline{W}$" is the reservation wage, equal across countries, and "$(W - \overline{W})$" is the excess wage. "θ" and "γ" are the elasticities of union respect to excess wage and employment. The union is called wage oriented if $\theta > \gamma$, employment oriented if $\theta < \gamma$, or neutrally oriented if $\theta = \gamma$. Assuming that in case of disagreement both the utilities of the firms and the unions are zero, the generalized Nash product in each country is

$$G(W,q) = [(W - \overline{W})^{\theta} q^{\gamma}]^{\alpha} [(P - W)q]^{1-\alpha} \tag{12}$$

where $\alpha \geq 0$ is the relative bargaining power of the union. In the case of cross-hauling FDI, profits are equal to $\Pi_i = (P - W)X_i$ for production at home and $\Pi_i^* = (P - W^*)Y_i$ for foreign production with $i = A, B$ and $X = X_A + X_B$, $Y = Y_A + Y_B$; that is the summation of the production of firms *A* and *B* in the two countries. The Nash product now is

$$G(W, X_A, X_B) = U^{\alpha} (\Pi_A + \Pi_A^* - \overline{\Pi}_A^*)^{\beta} (\Pi_B + \Pi_B^* - \overline{\Pi}_B^*)^{1-\alpha-\beta} \tag{13}$$

for the first country and

$$G(W^*, Y_A, Y_B) = (U^*)^{\alpha} (\Pi_B + \Pi_B^* - \overline{\Pi}_B)^{\beta} (\Pi_A + \Pi_A^* - \overline{\Pi}_A)^{1-\alpha-\beta} \tag{14}$$

for the second. In this case if the bargain fails in one country, a firm obtains profits in the other country. After the analysis of an intermediate case, where a firm invests in the foreign country but the other firm does not, the author is able to construct the following matrix payoff (table 2):

Table 2. Payoff Matrix of the FDI game

	Not invest	*Invest*
Not invest	Π_0, Π_0	Π_N, Π_I
Invest	Π_I, Π_N	Π_{II}, Π_{II}

with $\Pi_I > \Pi_{II} > \Pi_0 > \Pi_N$. Under the symmetry assumption, the Nash equilibrium in this game is unique and it is Invest-Invest for both firms; cross-hauling FDI dominates any other strategy[21]

Instead, Zhao (1998) constructs a general equilibrium model with which he analyzes the impact of FDI on the determination of wages and employment in the presence of unions. Applying a Nash bargaining process to model labor-management negotiations, first at the industry level, he shows that FDI depresses the negotiated wage in the unionized sector independently of whether or not the union is wage or employment oriented; he also finds that if the union is employment oriented or if it equally cares about employment and wages, FDI reduces union employment and the competitive wage in the non unionized sector. However, if labor-management negotiations are firm specific, but the union remains industry-wide, then FDI increases the employment alternatives of the union at the same time as it benefits the MNE.

None of these works takes in consideration the possibility that unions could cooperate at international level. As Zhao (1995, 1998) declares at the end of his works, what could be interesting to study with the appropriate extensions using this framework is trans-national bargaining that unions could achieve in order to enhance unions' bargaining positions[22].

[21] Using a similar setting to Zhao (1995), Naylor and Santoni (2003), assuming national rather than global markets and allowing for product market substitutability, find that the main driving force for reciprocal FDI is not to weaken unions bargaining positions but instead the capture of foreign market shares. Moreover, they are able to show that with the additional assumption of symmetry between countries, as product substitutability increases the FDI game becomes a Prisoner's Dilemma.

[22] In a different context, Buccella (2004) analyzes the trans-national cooperative behavior of trade unions in a two symmetric country-model with monopolistic competition firms present in the two markets under the possibility to shift production (i.e. through an increase in investments). In the case of technological shocks, firms are able to capture the advantage in wage differentials between the two countries. The country facing the shock has a loss in employment, while the other one faces a gain. But, if trade unions cooperate, in absence of transaction costs, they are able to reduce the total loss of employment. If transaction costs are present, the Nash equilibrium of the game is no cooperation and is also Pareto-efficient.

8. TRADE UNIONS' ROLE AND CHALLENGES WITHIN GLOBALIZATION

As previously discussed, the process of globalization has been accompanied by an increase of economic integration through the reduction or elimination of barriers to the circulation of goods, services, capital and, in some cases, of labor across national borders, promoting the internationalization of production and trade, with an intensification of market competition. As a consequence, it has accelerated the development of MNEs reflecting geographical dispersions while locating international production sites according to perceived comparative advantages.

This change has a strong impact on the trade union movement. Trans-national political and economic integration and the deregulation of international capital have turned out to be the innovative challenges faced by trade unions. Even if trans-nationalization of union functions and structures represent a historical claim of trade unionism, and even if supra-national bodies such as the European Trade Union Confederation and the International Confederation of Free Trade Unions (but also other organisms) and trans-national institutions such as multinational collective bargains exist, it has been claimed that any convergence does not exclude the greater divergence across (and within) national systems[23]

There has been a wave of pessimism about the prospects for union trans-nationalism, given the weak pressure on MNEs put by trade unions at both national and local levels. However, even with the possibility for MNEs to delocalize their activities, "the international trade union response has not been to call for national borders to be permanently closed to flows of physical capital or goods. But trade unions cannot passively accept the working of economists' "relative price effect" in terms of labor, leading to a "race to the bottom" in employment standards" (TUAC, 2004).

A call for a global strategy is needed in order to enforce rules for global labor markets to ensure that certain core labor rights are taken out of competition as well as to establish enforceable intergovernmental regulation covering the accountability of corporations and their employment practices (TUAC, 2004; ILO, 2005a).

Obviously, at the present, given the striking differences, the role of international trade unions cannot be the same within developed and developing

[23] A recent specific work, in which the problem of a closer coordination in bargaining processes is analyzed, taking into account the differences in industrial structures and traditions regarding labor market regulations in the metal sector between Nordic metal trade unions federations is Andersen (2006).

countries. There are countries where also the basilar freedoms are not admitted. In developing countries the priority is to ensure "core labor standards" (the "Decent Work Agenda" ILO, 2005b). At the regional level (in particular, in Europe) the challenges to trade unions posed by the question of delocalization can be considered under three analytically separate aspects (Galgóczi et al., 2005):

1) firstly, reducing incentives for relocation by developing proactive and forward looking strategies at both the micro and macro levels with the involvements of social partners. At the company level, it is necessary to strengthen efforts to assure productivity improvements through innovation and R&D. At the national and sector level, efforts to upgrade the soundness of the economy and its labor force must be strengthened. Trade unions in Europe, through the European Work Councils, have a role to play by agreeing with policymakers on industrial strategies and through sector initiatives[24];

2) actual off-shoring and relocation of companies affect a number of workers. In order to reduce the negative impacts of actual cases of relocation, policy alternatives could be improved by means of advance notification, re-adjustment support, adequate unemployment benefits and adequate employment protection legislation;

3) as mentioned above, a number of employers are abusing the threat of off-shoring to downscale wages and working conditions. Through concession bargaining workers at different locations are played out against each other. Hence, it is important to have information rights in order to know how real the threat of relocation is. In addition, trade unions should accept the fact that their bargaining outcomes are becoming increasingly interrelated and should step up their coordination of collective bargaining activities.

Great challenges must be faced in the near future by international trade unionism. MNEs are powerful and can challenge unions and governments with the request for a greater liberalization of trade (reduction in tariffs, cuts in corporate taxes and other measures) and capital mobility through the threat of shifting their activities to foreign locations. Hence, as quoted at the beginning of this work (Wills, 1998), it is clear that there are forces that could push unions towards nationalism or internationalism.

Unions have been forced to face situations in which their positions with respect to trans-national cooperation are cast in (and exemplified by) an iterated Prisoner's Dilemma game involving the well-known problems of achieving

[24] Pulignano (2005) argues that the implementation of European structures of coordination may generate uneven effects determined by the complexity of articulating the European to the national institution. Country and company-specific factors as well as ideological orientations among and within trade unions could explain such complications.

cooperation, and of finding norms and ways to preserve it while remaining able to increase and redistribute total payoffs via the exercise of relative powers between unions (Cooke, 2005). Nonetheless, trans-national cooperation is called for to play a balancing role within globalization; thus, a fashioning field of research is actually open.

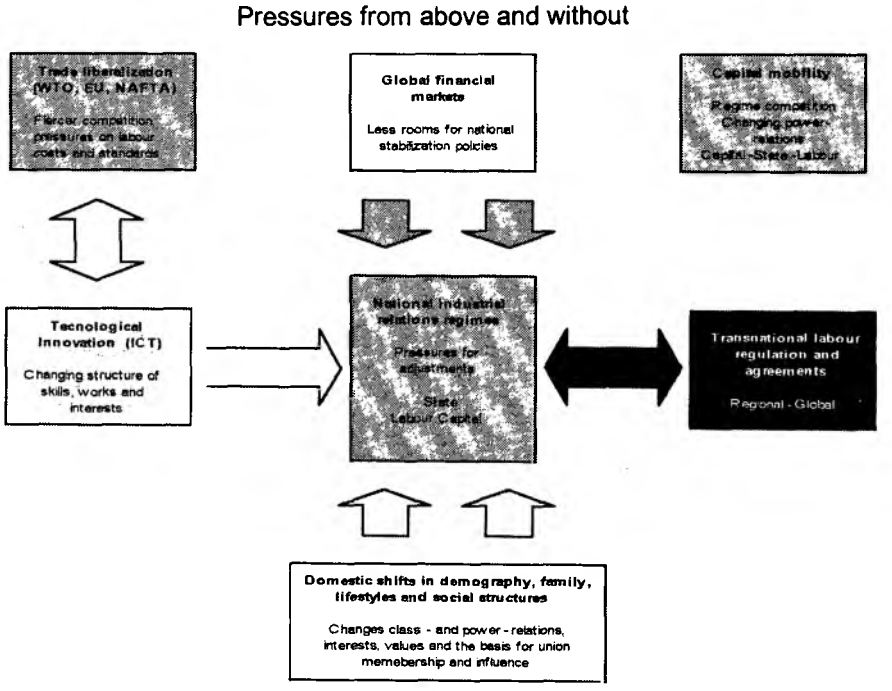
9. CONCLUSIONS

This work analyzed the implications for labor markets of economic integration, international trade, and internationalization of production. It discussed the mechanisms through which the globalization process puts pressure upon workers while leaving them in a situation characterized by a great insecurity. MNEs can adopt aggressive strategies in order to capture cost advantages. This is due to their possibility to move capital in a relatively fast way while undertaking international activities as well as while shifting their production processes from one location into another, being the latter regularly characterized for offering a most convenient regulatory regime. Indeed, MNEs, even without effectively executing decisions regarding off-shoring or relocation, may simply make use of a credible threat in order to obtain from trade unions bargain concessions and from governments regulatory advantages, including the possibility of a tendency towards a "race to the bottom" involving phenomena like "regime shopping" and "social dumping".

Even if these phenomena are generally treated in a straightforward way in the public debate, in reality they are very complex. After a brief review of the literature on international trade and production that analyzed the interaction between firms and trade unions, this work turned the attention towards the role of trade unions in globalization. Trade unions are put under pressure and are called to face great challenges in the near future.

However, after the observation of Figure 1 (adopted from Dølvik, 2001), it is straightforward to note that trade unions are at the centre of a much more complex mechanism. This work discussed only the relations within and between the grey boxes, excluding from the analysis the other one, but underlining as a promising research field the relations represented by the black box.

Figure 1. Globalization and pressures on trade unionism



Source: adapted from Dølvik (2001).

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