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Strategic Corporate Social Responsibility by a Multinational Firm*

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March 2017

Abstract

This paper investigates the determinants of a *responsible* multinational firm's decision to enter in a foreign country either through exports or through foreign direct investment (FDI), as well as the relevant market and societal outcomes. We find that CSR investments are higher under FDI than under exports. The multinational firm's incentives to serve the foreign country through FDI are increasing in the average consumer's valuation for CSR and in the intensity of the foreign country's market competition, but only if the average consumer's valuation for CSR in this country is sufficiently high. These incentives are mitigated by the multinational firm's liability in this country under exports. We also find that there is misalignment of preferences between the stakeholders of the two countries over the multinational firm's mode of entry in the foreign country.

Keywords: Corporate social responsibility; Multinational firms; Foreign direct investment; Exports; Import tariffs.

JEL Classification: D43; F13; F23.

1 Introduction

The core role of multinational firms, through international trade and investment, in home and host countries has recently given rise to increased attention regarding their social and environmental footprints by businesses, consumers, investors, policy makers and academics (United Nations, 2014).

In this context, KPMG (2015) suggests that corporate social responsibility (CSR) is now undeniably a mainstream business practice worldwide with more than 90% of the top 250 companies of the Fortune

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Global 500 stating a well-defined CSR strategy and including relevant data in their annual financial reports. Moreover, existing evidence suggests that consumers exhibit increasing trends on their awareness for the social and environmental consequences of firms' production and their expectations on firms' CSR activities are expressed through their product, services and equity purchasing decisions (Becchetti et al., 2011).¹ At the same time, the promotion of CSR has become a top priority in the policy agenda for sustainable development in many countries and international organizations. Interestingly, when CSR started becoming widespread, its further encouragement became a central policy objective in both the U.S. and the E.U. (European Commission, 2001; 2006).^{2,3}

Yet, in a global economy context, Campbell et al. (2012) argue that "little research has been done on the motivations, either strategic or altruistic, behind CSR by multinationals in host countries". Kitzmueller and Shimshack (2012) also suggest that the field of international CSR warrants greater attention while the preferences and politics that motivate CSR differ substantively across countries.

The present paper has been motivated by the growing importance of multinational firms' CSR practices and their subsequent outcomes. The paper addresses the following questions: How does a multinational firm's mode of entry in a foreign country affect the level of its CSR investments? How do CSR investments affect market and societal outcomes in the foreign country? What determines a multinational firm's decision to export to or to activate a branch plant in a foreign country? Which is the most beneficial mode of entry in the foreign country for each relevant stakeholder?

To address the above questions, we consider two firms located in different countries. One of the firms (the multinational), besides serving its home country's market, plans to serve the foreign country's too, either through exports or through establishing a FDI there. If the multinational chooses to export, it faces the "liability of foreignness" (Campbell et al., 2012) and the exported quantity is subject to a tariff set by the foreign country's government. Alternatively, the FDI in the foreign country incurs a fixed set-up cost. The multinational firm has the option to follow a "doing well by doing good" strategy, through integrating social and environmental concerns in its business operations, and invest in CSR activities along the value chain (Porter and Kramer, 2011) "above and beyond" that mandated by the foreign country's government (Campbell et al., 2012). This strategy meets the preferences of socially conscious consumers for *responsible* goods whose production processes comply with criteria for social and environmental sustainability (Becchetti et al., 2011).⁴

¹Manasakis et al. (2013) cite evidence from manufacturing industries, tourism services and agricultural production suggesting that consumers express a willingness to pay a premium for goods and services produced by socially responsible firms. McWilliams and Siegel (2011) cite evidence supporting that investors reward socially *responsible* firms.

²Although their main objective is the same, Doh and Guay (2006) argue that "different institutional structures and political legacies in the U.S. and E.U. are important factors in explaining how governments, NGOs, and the broader policy determine and implement preferences regarding CSR in these two important world regions".

³The OECD Guidelines for multinational enterprises (OECD, 2011) offer government-backed recommendations covering business conduct in a wide variety of areas, including employment and industrial relations, human rights, disclosure of financial and non-financial information, environmental issues.

⁴In the terminology of Porter and Kramer (2011), CSR activities connect company success with social progress and constitute a profit center for firms while creating value, and for society, by addressing needs and challenges of the firm's stakeholders, such as its employees (investments in health and safety in the workplace), suppliers (support to local suppliers rather than cheaper alternative sources), and the environment (reduction on emissions of pollutants; use of environmentally friendly technologies).

The core contribution of this paper is that it sheds some light to the relative costs and benefits of CSR activities as driving factors of a multinational firm’s decision to serve a foreign country’s market through exports or FDI as well as the relevant market and societal outcomes. Our main findings suggest that under both exports and FDI, the multinational firm’s CSR investments increase its equilibrium output and profits as well as consumer surplus and total welfare. Moreover, these investments are higher under FDI than under exports because of the “liability of foreignness” in the latter case. The multinational firm’s incentives to serve the foreign country through FDI are strengthened by the average consumer’s valuation for CSR as well as by the intensity of the foreign country’s market competition, but only if the average consumer’s valuation for CSR in this country is sufficiently high. These incentives are mitigated by the multinational’s liability in the foreign country. Interestingly, assuming that within each country, the firm, consumers and the policy maker are the related stakeholders, we find that their preferences for the multinational firm’s mode of entry in the foreign country are not aligned, leaving space for lobbying over trade and/or industrial policies affecting business conduct.

The rest of the paper is organized as follows. Section 2 presents the model and in Section 3 we study the multinational firm’s possible modes of entry in the foreign country’s market. Section 4 investigates the multinational firm’s decision between exports and FDI. In Section 5, a number of extensions of our basic model are briefly discussed. Section 6 concludes.

2 The Model

We consider two countries, denoted H (home) and F (foreign), and two firms, denoted 1 and 2. Initially, firm 1 is located in country H and firm 2 resides in country F . Firm 1, besides serving its home country’s market, plans to serve the foreign country’s too either through exports (e) or through establishing a FDI (f) in a production “branch-plant” facility in country F . Hence, firm 1 chooses one mode $m = e, f$, $e \neq f$, in order to become “multinational”. Firm 2 serves country F ’s market solely. Following the seminal analysis of Brander and Krugman (1983), as well as most models of intra-industry trade in identical commodities, we adopt the segmented market hypothesis, i.e., each firm regards each country as a separate market and chooses the profit-maximising quantity for each market separately.

Consumers in the foreign country’s market are socially and environmentally conscious and have preferences for *responsible* products. Independently of the mode that the multinational firm will choose for serving country F ’s market, this firm plans to meet these preferences through a “doing well by doing good” strategy, i.e., through investing in CSR activities along its value chain (Porter and Kramer, 2011) “above and beyond” that mandated by the foreign country’s government (Campbell et al., 2012).⁵

On the demand side, following Garella and Petrakis (2008), Manasakis et al. (2013) and Liu et al. (2015), the utility function of the representative consumer in country $I = H, F$ is:

⁵We consider that the multinational firm invests in CSR activities only for serving the foreign country’s market because we focus to the strategic use of CSR. It can be shown that even if the multinational firm invests in CSR activities in its home market too, the results are qualitatively similar.

$$U_I = (a + \bar{\lambda}_m k_I s_{I_i}) q_{I_i} + (a + \bar{\lambda}_m k_I s_{I_j}) q_{I_j} - \frac{q_{I_i}^2 + q_{I_j}^2 + 2\gamma q_{I_i} q_{I_j}}{2} + e_I \quad (1)$$

Putting $s_{H_1} = 0$, since the multinational firm does not invest in CSR in country H , and $q_{H_2} = 0$, since firm 2 does not serve country H 's market, gives the representative consumer's utility function in country H : $U_H = a q_{H_1} - q_{H_1}^2/2 + e_H$.

Putting $s_{F_2} = 0$, since firm 2 does not invest in CSR, gives the respective utility function in country F : $U_F = (a + \bar{\lambda}_m k_F s_{F_1}) q_{F_1} + a q_{F_2} - \frac{1}{2}(q_{F_1}^2 + q_{F_2}^2 + 2\gamma q_{F_1} q_{F_2}) + e_F$.

q_{I_i} , $i, j = 1, 2, i \neq j$, represents product i 's quantity bought by the representative consumer in country I and e_I is the respective quantity of the "composite good" in country I . This good's quantity and price are normalized to unity. The parameter $\gamma \in (0, 1]$ is a measure of the degree of substitutability, with $\gamma \rightarrow 0$ ($\gamma = 1$) corresponding to the case of almost independent (homogeneous) goods. Alternatively, γ may represent market competition's intensity, with a higher γ declaring fiercer competition.

$s_{F_1} \geq 0$ represents the level of CSR investments undertaken by the multinational firm in country F , which, in turn, increase by $\bar{\lambda}_m k_F s_{F_1}$ the consumers' valuation for this firm's *responsible* product. $k_F \in [0, 1]$ represents the increase of the average consumer's willingness to pay for the multinational firm's product per unit of its CSR investment.

The parameter $\bar{\lambda}_m$ captures the "liability of foreignness" that the multinational firm faces in country F . Following Campbell et al. (2012), the "liability of foreignness" argument suggests that if a multinational serves a foreign country through exports, consumers may be sceptical because they lack information about this firm's level of CSR investments and the ensuing social and environmental footprint of its products. The latter will then hamper this firm's performance in the foreign country. In this context, we argue that the multinational firm can overcome the liability of foreignness and improve its social legitimacy in country F through establishing a FDI in this country. In this case, i.e., when $m = f$, its CSR activities are perfectly verifiable by consumers and we normalize the multinational's liability to $\bar{\lambda}_f = 1$. On the contrary, if the multinational serves the foreign country through exports, i.e., when $m = e$, then $\bar{\lambda}_e = \lambda \in [0, 1)$, with $\lambda \rightarrow 0$ ($\lambda \rightarrow 1$) corresponds to the case of low (high) legitimacy in country F , i.e., the liability of foreignness is increasing in λ .

Maximization of (1) with respect to q_{I_i} and q_{I_j} gives the inverse demand function:

$$P_{I_i} = a + \bar{\lambda}_m k_I s_{I_i} - q_{I_i} - \gamma q_{I_j} \quad (2)$$

Putting $s_{H_1} = 0$ and $q_{H_2} = 0$ gives firm 1's inverse demand function in country H : $P_{H_1} = a - q_{H_1}$.

Putting $s_{F_2} = 0$ gives firm i 's inverse demand function in country F : $P_{F_1} = a + \bar{\lambda}_m k_F s_{F_1} - q_{F_1} - \gamma q_{F_2}$ and $P_{F_2} = a - q_{F_2} - \gamma q_{F_1}$.

The multinational firm's inverse demand P_{F_1} is positively affected by its CSR investments and their valuation by the average consumer in country F . This reflects a core idea of our model, that is, socially conscious consumers' valuation for a product increases with the multinational firm's CSR investment level. This, in turn, increases the demand for this firm's product.

We consider that both firms are endowed with identical constant returns to scale production technologies and the unit production cost, denoted by c , is the same for both firms. Regarding the multinational firm's CSR investments, we consider that a higher CSR level increases, at an increasing rate, its unit cost.⁶ More specifically, for a given CSR effort level s_{F_1} , the multinational firm's unit cost is constant and equal to $c(1 + s_{F_1}^2)$.

The multinational firm's cost is further increased by C_m , depending on the mode that this firm will choose for serving country F 's market. If $m = e$, the multinational firm pays a tariff r^e per unit of the exported quantity, which has been set by the foreign country's government. Hence, $C_e = r^e q_{F_1}$. Following the terminology of Motta and Norman (1996), r^e is an inverse measure of "market accessibility" and policy changes that increase r^e "heighten the asymmetry" between firms 1 and 2.⁷ Alternatively, if $m = f$, the FDI in country F incurs a fixed set-up cost T , containing the transaction and construction costs necessary to open a subsidiary in this country (Naylor and Santoni, 2003). Hence, $C_f = T$.

The multinational firm's profits can then be expressed as:

$$\Pi_1^m = \Pi_{H_1} + \Pi_{F_1}^m = P_{H_1} q_{H_1} + [P_{F_1} - c(1 + s_{F_1}^2)] q_{F_1} - C_m \quad (3)$$

Regarding the tariff r^e , we make the following assumption:

Assumption 1: $r_C^e < r_C^e: = \frac{1}{2} \left[(2 - \gamma)(a - c) + \frac{\lambda^2 k_F^2}{2c} \right]$

Assumption 1 requires that the tariff r^e is not too high and is a necessary and sufficient condition in order to avoid non-existence of pure strategy equilibria and guarantee interior solutions under all circumstances.⁸

Regarding the fixed set-up cost T , we make the following assumption:

Assumption 2: $T_C < T_C: = \frac{[2(2-\gamma)(a-c)c + k_F^2]^2}{[2c(\gamma^2 - 4)]^2}$

Assumption 2 guarantees interior solutions under all circumstances too.

The profit function for firm 2 is given by:

$$\Pi_2 = P_{F_2} q_{F_2} \quad (4)$$

In this context, we consider the following game with observable actions. In the first stage of the game, the foreign country's government determines its tariff so as to maximize national total welfare. In

⁶Manasakis et al. (2014) cite evidence according to which an individual firm's level of CSR activities, such as improving working conditions for employees, buying more expensive inputs from local suppliers, financing recycling and other socially responsible campaigns or introducing "green" technologies, has an increasingly negative impact on the firm's unit production costs.

⁷Moreover, the commodity exported is subject to a constant transportation unit cost, which, following Fumagalli (2003) and without loss of generality, is normalized to zero. This assumption allows us to economize with the parameters of the model that create unnecessary analytical complications without qualitatively altering our results.

⁸As in Bughin and Vannini (2003), we restrict our analysis to the case where both firms produce a strictly positive quantity in equilibrium. The case of monopoly is purposely neglected here, since we want to focus on the strategic interactions arising in duopoly.

the second stage, the multinational firm decides whether to serve the foreign country's market through exports or FDI and in the following stage it invests in CSR. In the fourth stage of the game, the two firms set their quantities. The game structure reflects a ranking of decisions in terms of flexibility. It is normal to postulate that the multinational's mode of entry in the foreign country is decided given this country's policy. We solve the game by employing the Subgame Perfect Nash Equilibrium (SPNE) solution concept.

3 The multinational firm serves the foreign country's market

In the fourth stage of the game, each firm i chooses its output to maximize its profits given by (3) and (4) respectively. From the first-order condition, each firm's reaction function in country F is given by:

$$\frac{\partial \Pi_1^m}{\partial q_{F_1}} = R_{F_1}^m(q_{F_2}) = \frac{1}{2} \left[a - c - \gamma q_{F_2} + s_{F_1} (\bar{\lambda}_m k_F - c s_{F_1}) - C'_m \right] \quad (5)$$

$$\frac{\partial \Pi_2}{\partial q_{F_2}} = R_{F_2}(q_{F_1}) = \frac{1}{2} (a - c - \gamma q_{F_1}) \quad (6)$$

Regarding the multinational firm's reaction function, the following observations are in order: First, the term $s_{F_1} (\bar{\lambda}_m k_F - c s_{F_1})$ captures the opposing effects of the multinational firm's CSR investments: An increase in CSR investment by s_{F_1} increases the demand for its product by $\bar{\lambda}_m k_F$ and its unit cost by $c s_{F_1}$. Second, $\frac{\partial R_{F_1}^m}{\partial s_{F_1}} = \frac{1}{2} (\bar{\lambda}_m k_F - 2c s_{F_1})$ suggests that the multinational firm's best response output has an inverted U -shaped relation with its CSR efforts, with the maximum attained at $s_{F_1} = \frac{\bar{\lambda}_m k_F}{2c}$. Intuitively, for a relatively low level of CSR efforts ($s_{F_1} < \frac{\bar{\lambda}_m k_F}{2c}$), the positive demand effect dominates the negative unit cost effect and $R_{F_1}^m$ shifts outwards. The opposite holds for $s_{F_1} > \frac{\bar{\lambda}_m k_F}{2c}$. Third, the fact that $C'_f = \frac{\partial C_f}{\partial q_{F_1}} = 0$ while $C'_e = \frac{\partial C_e}{\partial q_{F_1}} = r^e$ suggests that, compared with the FDI case, the multinational firm faces a relatively higher unit cost when it serves country F 's market through exports.

The first-order condition of Π_{H_1} determines that the multinational firm's output in country H is $q_{H_1} = \frac{a-c}{2}$. Solving the system of $R_{F_1}^m(q_{F_2})$ and $R_{F_2}(q_{F_1})$ we obtain each firm's output in country F :

$$q_{F_1}^m = \frac{(2 - \gamma)(a - c) + 2 \left[s_{F_1} (\bar{\lambda}_m k_F - 2c s_{F_1}) - C'_m \right]}{4 - \gamma^2} \quad (7)$$

$$q_{F_2}^m = \frac{(2 - \gamma)(a - c) - \gamma \left[s_{F_1} (\bar{\lambda}_m k_F - c s_{F_1}) - C'_m \right]}{4 - \gamma^2} \quad (8)$$

These output levels highlight the multinational firm's comparative advantage in the foreign country. More specifically, this firm's output increases: (i) in its CSR investment level, but only if s_{F_1} is relatively low; (ii) in the average consumer's willingness to pay for its product, i.e., $\frac{dq_{F_1}^m}{d\bar{\lambda}_m} > 0$; and (iii) in its liability in the foreign country, i.e., $\frac{dq_{F_1}^m}{dr^e} > 0$. On the contrary, the multinational's output decreases in the tariff rate, i.e., $\frac{dq_{F_1}^m}{dr^e} < 0$. The opposites hold for firm 2.

In the third stage, the multinational firm invests in CSR efforts in order to maximize its profits $\Pi_{F_1}^m = (q_{F_1}^m)^2$. The corresponding equilibrium CSR investments are $s_{F_1}^m = \frac{\bar{\lambda}_m k_F}{2c}$. We observe that $\frac{ds_{F_1}^m}{dk_F} > 0$, $\frac{ds_{F_1}^m}{d\bar{\lambda}_m} > 0$ and $\frac{ds_{F_1}^m}{dc} < 0$ always hold, implying that the multinational's CSR effort increases in the average consumer's willingness to pay for its product, in its liability in country F , as well as in the efficiency of the CSR (and output) "production technology" (captured by a lower c).

Note that $u_F(\frac{k_F}{a}, \frac{c}{a}) = \frac{k_F/a}{\sqrt{c(a-c)}} = \frac{k_F/a}{\sqrt{c/a(1-c/a)}}$ is a measure of the average consumer's valuation for CSR activities per unit of the foreign country's market size (adjusted for unit cost relative to market size, $\frac{c}{a}$). Moreover, u_F is increasing in $\frac{k_F}{a}$ and it is U-shaped in $\frac{c}{a}$ reaching its minimum value $\frac{2k_F}{a}$ at $c = \frac{a}{2}$. Its maximum value is equal to 1. Hence, the multinational firm's CSR investments can be rewritten as:

$$s_{F_1}^m = \frac{u_F \bar{\lambda}_m \sqrt{(a-c)c}}{2c} \quad (9)$$

Consider that the multinational firm chooses, in the second stage of the game, to serve the foreign country's market through FDI. Therefore, using $s_{F_1}^f = \frac{u_F \sqrt{(a-c)c}}{2c}$ in (7) and (8), we obtain firm i 's equilibrium output in country F :

$$q_{F_1}^f = \frac{(2\gamma - u_F^2 - 4)(a-c)}{2(\gamma^2 - 4)}; q_{F_2}^f = \frac{[(u_F^2 + 4)\gamma - 8](a-c)}{4(\gamma^2 - 4)} \quad (10)$$

Then, firm 2's profits are $\Pi_{F_2}^f = (q_{F_2}^f)^2$ and the multinational firm's profits are $\Pi_{H_1} = (q_{H_1})^2$ and $\Pi_{F_1}^f = (q_{F_1}^f)^2 - T$.

Consider now that the multinational firm chooses to serve the foreign country's market through exports. In this case, it holds that $s_{F_1}^e = \frac{u_F \lambda \sqrt{(a-c)c}}{2c}$ and in the first stage of the game, the foreign country's government determines its tariff rate r^e so as to maximize national total welfare:

$$TW_F^e(r^e) = CS_F^e(r^e) + \Pi_{F_2}^e(r^e) + r^e q_{F_1}^e(r^e) \quad (11)$$

The socially optimal tariff rate is $r^e = \frac{1}{12} \left[4(\alpha - c) + \frac{\lambda^2 k_F^2}{c} \right]$ which is rewritten as:

$$r^e = \frac{1}{12} (\alpha - c) (4 + \lambda^2 u_F^2) \quad (12)$$

and is increasing in the multinational firm's liability in country F and in the average consumer's valuation for CSR activities.

Using r^e in (7) and (8), we obtain firm i 's equilibrium output in country F :

$$q_{F_1}^e = \frac{(3\gamma - \lambda^2 u_F^2 - 4)(a-c)}{3(\gamma^2 - 4)}; q_{F_2}^e = \frac{[(\lambda^2 u_F^2 + 4)\gamma - 12](a-c)}{6(\gamma^2 - 4)} \quad (13)$$

Hence, regarding country F , the multinational firm's profits are $\Pi_{F_1}^e = (q_{F_1}^e)^2$ and firm 2's profits are $\Pi_{F_2}^e = (q_{F_2}^e)^2$. The multinational firm's profits in country H are $\Pi_{H_1} = (q_{H_1})^2$.

Consumer surplus in country H is $CS_H = \frac{1}{2}(q_{H_1})^2$, i.e., it is independent from the mode that the multinational firm chooses for serving country F 's market. On the contrary, consumer surplus in country F is $CS_F^m = \frac{1}{2}[(q_{F_1}^m)^2 + (q_{F_2}^m)^2 + 2\gamma q_{F_1}^m q_{F_2}^m]$. Country H 's total welfare is $TW_H^f = CS_H + \Pi_{H_1}$ and $TW_H^e = CS_H + \Pi_{H_1} + \Pi_{F_1}^e$ under FDI and exports respectively. The corresponding total welfare in country F is $TW_F^f = CS_F^f + \Pi_{F_2}^f + \Pi_{F_1}^f$ and $TW_F^e = CS_F^e + \Pi_{F_2}^e + r^e q_{F_1}^e$.⁹

Compared with a benchmark scenario where no firm invests in CSR, it can be shown that the multinational firm's CSR investments increase its output and profits as well as consumer surplus and total welfare in country F .¹⁰

4 Comparing FDI and exports

Regarding the multinational firm's two modes of entry in the foreign country, the following Proposition summarizes:

Proposition 1 (i) *The multinational firm's CSR investments are always higher under FDI than under exports, i.e., $s_{F_1}^f > s_{F_1}^e$.*

(ii) *Under both exports and FDI, the multinational firm's CSR investments increase (decrease) its (firm 2's) equilibrium output and profits as well as consumer surplus and total welfare in the foreign country.*

(iii) *The tariff, the multinational firm's equilibrium CSR effort, output and profits, as well as consumer surplus and total welfare in the foreign country increase in the average consumer's willingness to pay in this country (higher k_F), in the multinational's liability (higher $\bar{\lambda}_m$) and in the efficiency of the CSR "production technology" (lower c).*

Regarding the first part of Proposition 1, it is a direct consequence from the fact that when the multinational firm serves country F 's market through FDI, its CSR activities are perfectly verifiable by consumers, i.e., there is no liability of foreignness. The second part of Proposition 1 highlights the market and societal effects of CSR activities. In this context, the multinational firm's quantity in the foreign country is always higher under FDI than under exports, i.e., $q_{F_1}^f > q_{F_1}^e$. This holds for two reasons: Compared to the case of exports, under FDI, the multinational firm avoids the import tariff as well as it benefits from its perfect liability in the foreign country with $s_{F_1}^f > s_{F_1}^e$. Strategic substitutability suggests that $q_{F_2}^e > q_{F_2}^f$ and $\Pi_{F_2}^e > \Pi_{F_2}^f$, implying that firm 2 prefers the multinational firm to serve country F through FDI always. Yet, the increase of the multinational firm's output dominates and total quantity supplied in country F is always higher under FDI than under exports, i.e., $q_F^f > q_F^e$.

Turning our attention to the second stage of the game, we find that the multinational firm chooses to serve the foreign country's market through FDI, if $T < T^e = \frac{[9(u_F^2 - 2\gamma + 4) - 4(\lambda^2 u_F^2 - 3\gamma + 4)](a - c)^2}{36(4 - \gamma^2)^2}$. Regarding

⁹The analytical expressions for the equilibrium consumer surplus and total welfare are available from the authors upon request.

¹⁰Because of space limitations, the full analysis of this benchmark scenario and its comparison with the present cases are available from the authors upon request.

this critical level of sunk cost, the following observations are in order: First, $\frac{dT^e}{d\lambda} < 0$ implies that as the multinational's liability in the foreign country increases, its exports increase too, recall that $\frac{dq_{F1}^e}{d\lambda} > 0$, and its incentives for FDI are mitigated. Second, $\frac{dT^e}{du_F} > 0$ suggests that consumers' valuation for CSR increases the multinational's CSR investments, output, profits and the maximum affordable set-up cost that this firm can pay for FDI in the foreign country. This, in turn, strengthens (mitigates) its incentives for FDI (exports). Third, $\frac{dT^e}{d\gamma} > 0$, if and only if $m_B > \sqrt{\frac{9\gamma^2 - 20\gamma + 12}{2\gamma\lambda^2 + 3\gamma}}$, i.e., the average consumer's valuation for CSR in country F is sufficiently high. In this case, the gains due to the multinational's higher CSR efforts under FDI compensate for the losses due to fierce market competition in country F , which, in turn, strengthens this firm's incentives for FDI independently of the liability of its exports in the foreign country. The following Proposition summarizes:

Proposition 2 (i) *The multinational firm will choose to serve the foreign country's market through FDI, if and only if the sunk cost for the establishment of a production plant in the foreign country is sufficiently low, i.e., $T < T^e(u_F, \gamma, \lambda)$.*

(ii) *The multinational firm's incentives to serve the foreign country through FDI are mitigated in its liability in this country under exports and strengthened: (a) in the average consumer's valuation for CSR, (b) in the intensity of market competition in the foreign country, if and only if the average consumer's valuation for CSR in this country is sufficiently high.*

(iii) *Firm 2 prefers the multinational firm to serve country F through FDI always.*

Let us now focus on the relative welfare effects of the multinational firm's modes for serving country F 's market. First of all, recall that consumer surplus in country H , i.e., $CS_H = \frac{1}{2}(q_{H1})^2$, is independent from the mode that the multinational firm chooses for serving country F 's market. By contrast, consumer surplus in country F is always higher under FDI than under exports, i.e., $CS_F^f > CS_F^e$. Intuitively, this is because the relatively higher CSR investments under FDI result to relatively higher total quantity supplied in country F under FDI than under exports.

Total welfare in country H is always higher under exports than under FDI, i.e., $TW_H^e > TW_H^f$. This suggests that the policy maker in the home country could take measures to promote the multinational's exports of socially and environmentally *responsible* products. In this context, this policy maker could introduce an industrial policy subsidizing exports, with the maximum subsidy being equal to Π_{F1}^e . Total welfare in country F is higher under FDI than under exports, i.e., $TW_F^f > TW_F^e$, if $T < T^f(u_F, \gamma, \lambda)$, with $T^f > T^e$.¹¹ Intuitively, consumer surplus in country F is relatively higher under FDI, because $s_{F1}^f > s_{F1}^e$, and firm 2's profits are relatively higher under exports. We find that the multinational firm's profits in country F under FDI exceed this country's tariff revenues under exports, i.e., $\Pi_{F1}^f > r^e q_{F1}^e$, if $T < T^f(u_F, \gamma, \lambda)$. The analysis reveals an interesting trade-off: When the multinational firm chooses to serve the foreign country's market through FDI, this country's policy maker loses the policy option to charge a tariff. Yet, in the FDI case, this country's total welfare increases because of the perfect verification of the multinational firm's CSR activities and its subsequent increase in quantity. The welfare effects of the multinational firm's mode to serve country F relates our analysis with the OECD

¹¹The analytical expression of $T^f(u_F, \gamma, \lambda)$ is available from the authors upon request.

(2011) guidelines for multinational enterprises which provide non-binding principles and standards for responsible business conduct aiming to contribute towards economic, environmental and social progress to home and host countries. The following Proposition summarizes:

Proposition 3 (i) *Consumer surplus in the multinational firm's home country is independent from this firm's mode of entry in the foreign country.*

(ii) *Total welfare in the multinational firm's home country is always higher under exports than under FDI.*

(iii) *Consumer surplus in the foreign country is always higher under FDI than under exports.*

(iv) *Total welfare in the foreign country is higher under FDI than under exports if and only if $T < T^f(u_F, \gamma, \lambda)$.*

Based on the above analysis, two further observations are in order: First, independently of the multinational firm's mode of entry in the foreign country, CSR is welfare enhancing and policy makers should take measures to promote CSR activities, e.g. by raising consumers' awareness on social and environmental issues; building capacities for CSR; improving disclosure, transparency and the quality of CSR reports; facilitating socially *responsible* investments (Steurer, 2010).¹² Second, the stakeholders' preferences for the multinational firm's mode of entry in the foreign country are not aligned. More specifically, assuming that within each country, the firm, consumers and the policy maker are the related stakeholders, we find that firm 2 and country H 's policy maker prefer the multinational to serve country F through exports always. Country H 's consumers are indifferent but country F 's consumers prefer the establishment of the FDI in their country. Firm 1 and country F 's policy maker prefer this FDI if and only if its sunk cost is relatively low. These observations reveal that there is space for lobbying over trade and/or industrial policies affecting the mode of entry of *responsible* multinational firms in foreign countries.

5 Extensions - Discussion

We now discuss briefly two modifications of our model and discuss our results.

Total welfare under FDI: Consider that the multinational firm's profits in the foreign country are repatriated to this firm's home country, instead of being counted in the foreign country's total welfare. In this scenario, total welfare is $TW_H^{ft} = CS_H + \Pi_{H1} + \Pi_{F1}^f - T$ and $TW_F^{ft} = CS_F^f + \Pi_{F2}^f$ for country H and F respectively. We find that total welfare in country H is higher under FDI than under exports, i.e., $TW_H^{ft} > TW_H^e$, if and only if $T < T^e$. Moreover, total welfare in country F is always lower under FDI than under exports.

Both firms invest in CSR: Consider that firm 2 invests in CSR too, with its investment level s_{F2} increasing by $k_{FS_{F2}}$ the consumers' valuation for this firm's product and hence, $P_{F2} = a + k_{FS_{F2}} -$

¹²This is in line with the policy initiatives of the European Commission (2011): "...the Commission will step up its cooperation with Member States, partner countries and relevant international fora to promote respect for internationally recognised principles and guidelines, and to foster consistency between them. This approach also requires EU enterprises to renew their efforts to respect such principles and guidelines."

$q_{F_2} - \gamma q_{F_1}$. In this scenario, the multinational firm's CSR investments do not change, while its (firm 2's) output and profits are relatively lower (higher) than the respective when only the multinational firm invests in CSR. Country F 's consumer surplus and total welfare are relatively higher when both firms invest in CSR. The above hold for FDI and exports, highlight the beneficial effects of CSR for consumers and firms and strengthen the arguments for policy measures to promote the disclosure of CSR activities.

In this context, the Directive 2014/95/EU (European Union, 2014) concerns the disclosure of non-financial information by certain large companies across Europe through statements containing information relating to at least environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery matters. This Directive meets the needs of investors and stakeholders for information about the societal and environmental footprint of businesses and has its origins to European Commission (2011) arguing that public authorities should play a supporting role through a smart mix of voluntary CSR policy measures and complementary regulation for corporate accountability. Interestingly, KPMG (2015) suggests that European companies are leaders in the quality of their non-financial information disclosed within a growing worldwide regulations requiring companies to publish non-financial information.

Despite the growing importance and stylized facts about CSR activities of multinational firms, the relevant literature is still scant. In Wang et al. (2012) and Chang et al. (2014), each firm has the option for a consumer-friendly initiative, constituted by own profit and by consumer surplus maximization. Becchetti et al. (2011) consider competition between a not-for-profit *fair* trader and a profit-maximizing producer in a standard Hotelling framework with heterogeneous consumers regarding their preferences on CSR. We depart from these papers in three dimensions. First, besides exports, we also consider that the multinational firm can serve the foreign country's market through FDI. Second, the present paper treats CSR efforts as a certain for-profit strategic variable of the multinational firm, instead of a *fair* consumer-friendly initiative. Third, we study how does the intensity of market competition, captured by the degree of product differentiation, affects market and societal outcomes.

The recent literature regarding a multinational firm's mode of entry in a foreign country studies the role of vertically related markets (Ishikawa and Horiuchi, 2012), the impact of technology licensing (Sinha, 2010) and the conditions for the coexistence of FDI and exports (Ma and Zhou, 2016). Yet, none of these papers considers that the multinational firm invests in CSR.

6 Conclusion

We have investigated the determinants of a *responsible* multinational firm's decision to enter in a foreign country either through exports or through FDI as well as the relevant market and societal outcomes. Our main finding is that the multinational firm, seeking for a competitive advantage in the foreign market, strategically engages in CSR activities and meets the socially conscious consumers' demand. CSR investments are higher in the case of FDI than under exports and the multinational firm's incentives to serve the foreign country through FDI increase with the average consumer's valuation for CSR and with

the intensity of the foreign country's market competition, but only if the average consumer's valuation for CSR in this country is sufficiently high. These incentives are mitigated by the multinational firm's liability in this country under exports. We also find that the misalignment of preferences between the stakeholders of the two countries over the multinational firm's mode of entry in the foreign country leaves space for lobbying about the relevant trade/industrial policies, an issue that we leave for future research.

References

- [1] Becchetti, L., Federico, G., Nazaria, S. (2011). What to do in globalised economies if global governance is missing? The vicarious role of competition in social responsibility. *International Review of Economics*, 58(2), 185-211.
- [2] Brander, J.A., Krugman, P.R. (1983). A reciprocal dumping model of international trade. *Journal of International Economics*, 15, 313-321.
- [3] Bughin, J., Vannini, S. (2003). Unions and the welfare impact of foreign direct investment - A wisdom extension. *LABOUR*, 17(2) 285-298.
- [4] Campbell, T.J., Eden, L., Miller, S.R. (2012). Multinationals and corporate social responsibility in host countries: Does distance matter? *Journal of International Business Studies*, 43, 84-106.
- [5] Chang, Y.M., Chen, H.Y., Wang, L.F.S., Wu, S.J. (2014). Corporate social responsibility and international competition: A welfare analysis. *Review of International Economics*, 22(3), 625-638.
- [6] Doh, J., Guay, T. (2006). Corporate social responsibility, public policy, and NGO activism in Europe and the United States: an institutional-stakeholder perspective. *Journal of Management Studies*, 43(1), 47-73.
- [7] European Commission (2001). Promoting a European framework for corporate social responsibility. Green Paper and COM 366, Brussels.
- [8] European Commission (2006). Implementing the partnership for growth and jobs: Making Europe a pole of excellence on corporate social responsibility. COM 136, Brussels.
- [9] European Commission (2011). A renewed EU strategy 2011-14 for corporate social responsibility. COM 681, Brussels.
- [10] European Union (2014). Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. *Official Journal of the European Union*, L 330/1, 15.11.2014.
- [11] Fumagalli, C. (2003). On the welfare effects of competition for foreign direct investments. *European Economic Review*, 47(6), 963-983.

- [12] Garella, P.G., Petrakis, E. (2008). Minimum quality standards and consumers information. *Economic Theory*, 36(2): 283-302.
- [13] Ishikawa, J., Horiuchi, E. (2012). Strategic foreign direct investment in vertically related markets. *The Economic Record*, 88(281), 229-242.
- [14] Kitzmueller, M., Shimshack, J. (2012). Economic perspectives on corporate social responsibility. *Journal of Economic Literature*, 50(1), 51-84.
- [15] KPMG (2015). The KPMG Survey of Corporate Responsibility Reporting.
- [16] Liu, C.-C., Wang, L.F.S., Lee, S.-H. (2015). Strategic environmental corporate social responsibility in a differentiated duopoly market. *Economics Letters*, 129, 108-111.
- [17] Ma, J., Zhou, J. (2016). A note on foreign direct investment and exports in vertically differentiated industries. *Bulletin of Economic Research*, doi:10.1111/boer.12087.
- [18] Manasakis, C., Mitrokostas, E., Petrakis, E. (2013). Certification of corporate social responsibility activities in oligopolistic markets. *Canadian Journal of Economics* 46(1), 282-309.
- [19] Manasakis, C., Mitrokostas, E., Petrakis, E. (2014). Strategic corporate social responsibility activities and corporate governance in imperfectly competitive markets. *Managerial and Decision Economics*, 35(7), 460-473.
- [20] McWilliams, A., Siegel, D. (2011). Creating and capturing value: Strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage. *Journal of Management*, 37(5), 1480-1495.
- [21] Motta, M., Norman, G. 1996. Does economic integration cause foreign direct investment? *International Economic Review*, 37, 757-783.
- [22] Naylor, R., Santoni, M. (2003). Foreign direct investment and wage bargaining. *The Journal of International Trade & Economic Development: An International and Comparative Review*, 12(1), 1-18.
- [23] OECD (2011). *OECD Guidelines for Multinational Enterprises*, OECD Publishing.
- [24] Porter, M.E., Kramer, M.R. (2011). Creating shared value. *Harvard Business Review*, 89, 62-77.
- [25] Sinha, U.B. (2010). Strategic licensing, exports, FDI, and host country welfare. *Oxford Economic Papers*, 62, 114-131.
- [26] Steurer, R. (2010). The role of governments in corporate social responsibility: Characterising public policies on CSR in Europe. Institute of Forest, Environmental, and Natural Resource Policy at the University of Natural Resources and Applied Life Sciences, Vienna (BOKU), Discussion Paper 2-2010.

- [27] United Nations (2014). World investment report 2014: Investing in the sustainable development goals (SDGs): An action plan. New York and Geneva.
- [28] Wang, L.F.S., Wang, Y.C. Zhao, L. (2012). Tariff policy and welfare in an international duopoly with consumer-friendly initiative. Bulletin of Economic Research, 64(1), 56-64.

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