

Fanti, Luciano; Buccella, Domenico

Working Paper

Passive unilateral cross-ownership and strategic trade policy

Economics Discussion Papers, No. 2016-7

Provided in Cooperation with:

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

Suggested Citation: Fanti, Luciano; Buccella, Domenico (2016) : Passive unilateral cross-ownership and strategic trade policy, Economics Discussion Papers, No. 2016-7, Kiel Institute for the World Economy (IfW), Kiel

This Version is available at:

<https://hdl.handle.net/10419/127429>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/3.0/>

Discussion Paper

No. 2016-7 | February 10, 2016 | <http://www.economics-ejournal.org/economics/discussionpapers/2016-7>

Passive Unilateral Cross-ownership and Strategic Trade Policy

Luciano Fanti and Domenico Buccella

Abstract

In a Cournot duopoly model in which exporters compete in a third market, this paper revisits the classical issue (dating back to the pioneering work of Brander and Spencer, *Export Share and International Market Share Rivalry*, 1985) of the strategic trade policy choice in the presence of the passive participation of one firm in the rival. Passive cross-ownership dramatically alters the participating and participated firms' governments' choice to apply the strategic trade policy instrument, the equilibria typology and their efficiency properties. In fact, if the share of cross-ownership is sufficiently large, the participated firm's government finds optimal to tax export. Moreover, beyond an adequately high threshold, cross-ownership modifies the equilibrium from the activist regime for both countries to an asymmetric regime in which only the participating firm's government intervenes. In addition, in the case of the traditional common activist regime equilibrium, the classical prisoner's dilemma game structure may disappear.

JEL F16 L13

Keywords Export subsidy; prisoner's dilemma; unilateral cross-ownership; Cournot duopoly

Authors

Luciano Fanti, Department of Economics and Management, University of Pisa, Italy,
lfanti@ec.unipi.it

Domenico Buccella, ✉ Department of Economics, Kozminski University, Warsaw, Poland,
buccella@kozminski.edu.pl

Citation Luciano Fanti and Domenico Buccella (2016). Passive Unilateral Cross-ownership and Strategic Trade Policy. *Economics Discussion Papers*, No 2016-7, Kiel Institute for the World Economy. <http://www.economics-ejournal.org/economics/discussionpapers/2016-7>

1. Introduction

The subsidy policy for exporting firms is a cornerstone of the public intervention in the productive sectors. While its effectiveness to gain an advantage is undeniable when rival countries do nothing, if the other countries use a subsidy policy as well, the well-known outcome is that both exporter countries would be better off if neither used that policy. This finding originates from Brander and Spencer (1985), according to which it is always convenient for countries which export in a third-country market under oligopolistic quantity competition to subsidize exports unilaterally. However, such a policy interventions performed by both countries are welfare inferior when compared to the case of free trade. In terms of the game-theoretic approach, this means that the game played by governments has the structure of the prisoner's dilemma.¹ A key point, beyond pointing out the pro and cons of such a policy, consists of identifying the types and characteristics of industries to be targeted with the subsidy policy instrument.²

An important stylized fact, especially with regard to oligopolistic industries, is the widespread presence of passive participation of one firm in other firms. The simplest and most common ownership structure in a duopoly context is that with only one passive (i.e. non-controlling) participation shareholding in the rival firm.

¹ The literature originated from the early works by Brander and Spencer (e.g. Brander, 1981; Brander and Spencer, 1984, 1985, 1988; Spencer and Brander, 1983), particularly the “strategic trade policy” approach. The subsequent intense debate is surveyed, e.g., by Krugman (1986), Grossman and Richardson (1986), Helpman and Krugman (1989) and Brander (1995).

² As noted by Spencer (1986, 70-71), “the identification of these characteristics is a preliminary step toward translating theory into practical policy proposals”.

Many papers have investigated the theoretical effects of such a type of passive cross-ownership in terms of several topics within the Industrial Organization literature, such as that regarding managerial incentives (Macho-Stadler and Verdier, 1991), Cournot oligopoly (Farrell and Shapiro, 1990), tacit collusion (Reitman, 1994), Japanese automobile industry (Ono et al., 2004), asymmetric costs (Gilo et al., 2006, 2008), incentives for cost-saving technologies (Barcena-Ruiz and Oilazola, 2007), privatization in a mixed duopoly (Pal, 2010), equity transfer to strategic partners (Osano, 2011), product differentiation and profitability (Fanti, 2013), welfare effects in the presence of unionization or asymmetric costs (Fanti, 2014, 2015), among others.

Studies on specific industries characterized by the presence of cross-ownership have been conducted by Alley (1997) (automobile industry), Parker and Roller (1997) (telecommunications), Amundsen and Bergman (2002) (energy industry), Trivieri (2007) and Bank of Italy (2008) (banking sector) and Morck and Nakamura (1999) on Japanese firms (which seem to be significantly “cross-ownership oriented” in most industries).

On the other hand, most applications of strategic trade policy have been developed, extending the basic frame of Brander and Spencer (1985).³ The first important extension is due to Eaton and Grossman (1986) which studied the issue of strategic subsidies under Bertrand competition, where outputs are typically strategic complements, showing that an incentive to tax rather than to subsidize exports raises, which in turn

³ In the words of Spencer and Brander (2008), "strategic trade policy has been analyzed in a wide range of contexts and is robust to a range of generalizations. These extensions include consideration of the effects of unionization of the industry, dynamic effects on investment and R&D, vertical integration and trade in intermediate and final goods, and extension to general equilibrium."

implies that, under Bertrand, the strategic policy needed to capture more of the profit is a commitment to a higher price (rather than to a larger quantity).

Among the subsequent extensions, most studies have dealt with trade policy in the presence either of unions and different pay systems or incentive schemes with the delegation of different types of choices. With regard to the former, we mention the following: 1) Brander and Spencer (1988), which have shown that, with unionized exporting firms, the optimal subsidy is likely to be higher than in the absence of unions, because greater intervention is required to facilitate the exporting firm to gain strategic advantage in the product market, given that profits are also shared by workers; 2) Das (1996), who studied the effect of trade policy on effort and welfare when workers are offered incentive-pay schemes such as piece-rate pay or a profit sharing scheme in the context of a small import-competing industry and moral hazard, showing that such effects depend upon the degree of mobility of workers as well as the type of incentive pay; 3) Bandyopadhyay and Bandyopadhyay (2001), which presented an efficient bargaining model and analyzed the welfare effects of unionization when rival exporting governments employ strategic export policy; and 4) Fanti and Buccella (forthcoming), which investigated the choice of the bargaining agenda between duopolistic firms and unions and the welfare effects in an open economy with strategic trade policy.

With regard to the latter, Collie (1997) examined the domestic government's incentive to delegate the trade policy to a policy maker when two firms compete in the domestic market. In the field of the managerial delegation literature, relevant contributions are as follows. Das (1997) investigated how optimal trade policy may be designed in light of the changes in managerial incentive contracts. Furthermore, Colonques

(1997), by adopting sales delegation specification, showed that strategic trade policy under delegation results in lower levels of the trade policy instruments. Miller and Pazgal (2005), by introducing the so-called "Relative Performance" contract – a linear combination of own profit and competitor's profit – in the analyses of Brander and Spencer (1985) and Eaton-Grossman (1986), discussed the effects of traditional strategic trade policies. Wang et al. (2008, a,b) assessed the influence upon optimal trade policy of the introduction of i) managers' bargaining process in the Das (1997) model, showing that this leads to a decrease in the export subsidy and optimal tariff; ii) market share delegation, showing that different forms of delegation coupled with asymmetric costs will imply different degrees of government intervention. Wei (2010), revisiting the Das (1997) model, showed the equivalence between the strategic behavior between government trade policy and managerial delegation under oligopolistic competition.

To the best of our knowledge, despite this vast collection of theoretical and empirical literature, little attention has been paid so far to the effects of a passive participation of one firm in the rival on the trade policy choices in an export-rivalry context, although the theme of the ownership is acknowledged as crucial in the "strategic trade policy approach".⁴

Therefore, it is natural to ask if an industry characterised by the presence of such a type of cross-ownership could be a good (or a bad) candidate to be targeted with subsidy policies. To produce an answer, we investigate whether and how the presence of cross-ownership alters the outcomes of the standard game in which governments set subsidies for their own exporter firms.

⁴ Again, in the words of Spencer and Brander (2008), "Most applications of strategic trade policy assume that firms differ by *ownership* as well as country of location".

In doing so, we propose a three-stage game with the following timing. At the pre-play stage, governments decide whether to intervene. In the first stage, the exporting countries decide on the optimal subsidy (tax) to maximize their own welfare, which is given by the profits of the exporter firm minus (plus) the subsidy spending (tax revenue).

Finally, in the second stage, the firms simultaneously and independently choose their output. This is determined according to the assumption that the firms choose output levels following the policy decisions that are made by their respective governments. We solve the game by applying the backward induction method to obtain a Sub-game Perfect Nash Equilibrium (SPNE).

It is shown that the presence of passive cross-ownership brings dramatic changes with respect to, on the one hand, the choice of the policy instrument, and on the other hand, the typology of equilibrium as well as its efficiency properties. In particular, with regard to the emergence of the endogenous equilibrium, we show that the presence of cross-ownership may be responsible for a shift from the activist regime for both countries (as in the traditional model) to a mixed regime in which only the government of the participating firm intervenes, while that of the participated firm abstains from intervention.

It is worth observing that the "game-theoretic" context of this paper is the necessary methodological approach for disclosing in depth the effects that are not straightforward of an apparently small change in the ownership structure in the industry, because the "application of basic game theory is a feature of strategic trade policy that distinguishes it from much of the previous work in international economics" (Spencer and Brander, 2008).

The remainder of the paper is organized as follows. Section 2 develops the model of strategic trade policy in the presence of cross-ownership. Section

3 analyses the governments' policy selection. Finally, Section 4 provides a conclusion.

2. The model with strategic trade policy.

Following the approach of the Brander-Spencer (1985) model, we consider two exporting countries, each with a firm. Both firms (1 and 2) produce homogeneous goods, which are sold to a third country (i.e. an importing country) and compete between them on quantity (i.e. a duopolistic Cournot market). Moreover, there are two shareholders, A and B, with shareholder A entirely owning firm 1 and having the minority of (or, at the limit, equal) shares of firm 2, and thus shareholder B has control of firm 2. We denote by b ($0 \leq b \leq 0.5$) the fraction of shares that shareholder A has in firm 2.⁵ Shareholders are assumed to maximise their total profit, which means that the objective function of shareholder A is

$$\pi_A = \pi_1 + b\pi_2 \quad (1)$$

while the objective function of shareholder B is

$$\pi_B = (1-b)\pi_2, \quad (2)$$

The two firms face the same constant marginal cost, c . The governments of countries 1 and 2 provide specific export subsidies, s_i , to their producers. Therefore, firm i 's cost function is linear and described by:

$$C_i(q_i) = (c - s_i)q_i. \quad (3)$$

We assume the standard linear inverse demand function

⁵ The usual assumption that the one who owns the majority of the shares acquires the right to "manage" the firm's choices implies that, in the present model, $b \leq 0.5$. However, in principle, it would be possible even to postulate that the major shareholder "delegates" the firm's choices to the minor shareholder if this were more convenient for both shareholders. This case is left for further research.

$$p = a - q_i - q_j \quad (4)$$

where p_i denotes price, q_i and q_j are the output levels of the two firms.

Therefore, profits of firm i can be written as

$$\pi_i = pq_i - (c - s_i)q_i, \quad i=1, 2 \quad (5)$$

From (1), (2) and (5), under profit-maximization, firms' best-reply functions are given by

$$q_1(q_2) = \frac{a - c - q_2(1+b) + s_1}{2}, \quad (6)$$

$$q_2(q_1) = \frac{a - c - q_1 + s_2}{2} \quad (7)$$

The best-reply functions are downward sloping; that is, under the Cournot assumption, the product market game is played in strategic substitutes. By solving the system (6)-(7), we obtain output and profits as a function of subsidy policies for firms 1 and 2, respectively:

$$q_1(s_1, s_2) = \frac{[(a-c)(1-b) - s_2(1+b) + 2s_1]}{(3-b)} \quad (8)$$

$$q_2(s_1, s_2) = \frac{[a - c - s_1 + 2s_2]}{(3-b)} \quad (9)$$

$$\pi_1(s_1, s_2) = \frac{[(a-c)(1-b) - s_2(1+b) + 2s_1](c - a + (1-b)s_2 - (2-b)s_1)}{(3-b)^2} \quad (10)$$

$$\pi_2(s_1, s_2) = \frac{[a - c - s_1 + 2s_2]^2}{(3-b)^2} \quad (11)$$

The social welfare (SW) expressions of the two countries are given by:

$$SW_1 = \pi_A - s_1q_1, \quad SW_2 = \pi_B - s_2q_2 \quad (12)$$

Each government maximises social welfare⁶ with respect to its subsidy rate for a given subsidy rate of the other government and the following reaction functions in subsidy rates are obtained:

⁶ The expressions for $SW_i(s_i, s_j)$ are too long and are omitted here for brevity.

$$s_1(s_2) = \frac{(a-c)(1-b) + s_2(1+b)}{2(2-b)}. \quad (13)$$

$$s_2(s_1) = \frac{(a-c-s_1)(1-3b)}{4(1+b)}. \quad (14)$$

Solving the system (13)-(14), the subsidy rates at equilibrium are given by

$$s_1 = \frac{(a-c)}{5} \quad (15)$$

$$s_2 = \frac{(a-c)(1-3b)}{5(1+b)}. \quad (16)$$

By exploiting (15) and (16) and recalling (8)-(12), after the usual algebra, the equilibrium values of output, profit and social welfare can be derived. Such equilibrium outcomes under trade policy (upper script S) are resumed, together with those of the case of free trade (FT)⁷, in Table 1.

3. The strategic game played by national governments.

Now, at the pre-play stage, we develop the game between the two governments. Each of them may decide whether to subsidize production. To determine the sub-perfect Nash equilibrium (SPNE) of this game, we have to evaluate the governments' pay-offs in the mixed case, in which one subsidizes while the other one allows free trade.

We develop the cases in which Government 1 (resp. Government 2) subsidises, while Government 2 (resp. Government 1) does not intervene; that is $s_2=0$ (resp. $s_1=0$). Standard calculations based on the conveniently modified eqs. (8)-(12) and the maximization by Government 1 (resp. Government 2) of its social welfare leads to the following subsidy rate for firm 1 (resp. firm 2):

⁷ The equilibrium outcomes under free trade are easily obtained by setting $s_1=s_2=0$ in (8)-(12).

Tab. 1. Outcomes under the different trade configurations

	quantity	subsidy	social welfare
Strategic trade policy	$q_1^{s,s} = \frac{2(a-c)}{5},$ $q_2^{s,s} = \frac{2(a-c)}{5(1+b)}$	$s_1^{s,s} = \frac{(a-c)}{5} \quad s_2^{s,s} = \frac{(a-c)(1-3b)}{5(1+b)}$	$SW_1^{s,s} = \frac{2(a-c)^2(3b^2+6b+1)}{25(1+b)^2},$ $SW_2^{s,s} = \frac{2(a-c)^2}{25(1+b)}$
Free trade	$q_1^{FT,FT} = \frac{(1-b)(a-c)}{3-b},$ $q_2^{FT,FT} = \frac{a-c}{3-b}$	$s_1^{FT,FT} = s_2^{FT,FT} = 0$	$SW_1^{FT,FT} = \frac{(a-c)^2}{(3-b)^2},$ $SW_2^{FT,FT} = \frac{(1-b)(a-c)^2}{(3-b)^2}$
Asymmetric regime 1 (Government 1 strategic trade policy)	$q_1^{s,FT} = \frac{(1-b)(a-c)}{2-b},$ $q_2^{s,FT} = \frac{a-c}{2(2-b)}$	$s_1^{s,FT} = \frac{(1-b)(a-c)}{2(2-b)}$ $s_2^{s,FT} = 0$	$SW_1^{s,FT} = \frac{(a-c)^2}{4(2-b)},$ $SW_2^{s,FT} = \frac{(1-b)(a-c)^2}{4(2-b)^2}$
Asymmetric regime 2 (Government 2 strategic trade policy)	$q_1^{FT,s} = \frac{a-c}{4},$ $q_2^{FT,s} = \frac{a-c}{2(1+b)}$	$s_1^{FT,s} = 0$ $s_2^{FT,s} = \frac{(1-3b)(a-c)}{4(1+b)}$	$SW_1^{FT,s} = \frac{(3b^2+8b+1)(a-c)^2}{16(1+b)^2},$ $SW_2^{FT,s} = \frac{(a-c)^2}{8(1+b)}$

$$s_{1|s_2=0} = \frac{(1-b)(a-c)}{2(2-b)} \quad (17)$$

$$s_{2|s_1=0} = \frac{(1-3b)(a-c)}{4(1+b)}. \quad (18)$$

By substituting backwards (17) (and $s_2=0$) (resp. (18) and $s_1=0$) in (12)-(15), we obtain quantities and social welfares of countries 1 and 2 and report the data in Table 1.

An analytical inspection of the values related to the subsidies under the different trade configurations leads to the following Lemma.

Lemma 1. *While Government 1 always sets a subsidy, Government 2 sets a subsidy (resp. a tax) when the share of cross-ownership is lower (resp. larger) than one-third in both cases of common or unilateral trade policy.*

Proof: by simple observation of Eqs. (15)-(18).

The intuition behind Lemma 1 is straightforward. Since the Cournot competition on the product market is in strategic substitutes, the effect of firm 1's "internalization" that the two firms compete in the product market is such that firm 1 is less aggressive in terms of quantity. Thus, the effect of the increase of the participation of firm 1 in firm 2 results in an increase of the production of the latter and in a reduction of that of the former. Therefore, from the point of view of country 2's social welfare, firm 2 is relatively "overproducing" because of cross-ownership (with the corresponding larger fiscal burden for financing subsidies) so that, when the share of cross-ownership is sufficiently high – implying that also firm 2's output is relatively large – it becomes optimal to tax (as opposed to subsidized) output.

Therefore, we can represent the countries' benefits of the different policy regimes through their pay-offs summarized in the pay-off matrix reported in Table 2. Each government has two strategies: to be interventionist (subsidize, S) or to adopt a non-interventionist stance (free trade, FT). As usual, the first element in each entry represents the payoff to country 1, while the second element represent the payoff to country 2. Along the top, Government 2's strategies are listed, and along the left are Government 1's strategies. Along these lines, social welfares are reported in detail in Table 2.

Tab. 2. Social Welfare matrix

<i>Country 2</i>	FT	S
<i>Country 1</i>		
FT	$SW_1^{FT,FT} = \frac{(a-c)^2}{(3-b)^2},$ $SW_2^{FT,FT} = \frac{(1-b)(a-c)^2}{(3-b)^2}$	$SW_1^{FT,S} = \frac{(3b^2 + 8b + 1)(a-c)^2}{16(1+b)^2},$ $SW_2^{FT,S} = \frac{(a-c)^2}{8(1+b)}$
S	$SW_1^{S,FT} = \frac{(a-c)^2}{4(2-b)},$ $SW_2^{S,FT} = \frac{(1-b)(a-c)^2}{4(2-b)^2}$	$SW_1^{S,S} = \frac{2(a-c)^2(3b^2 + 6b + 1)}{25(1+b)^2},$ $SW_2^{S,S} = \frac{2(a-c)^2}{25(1+b)}$

Now we are in a position, first, to solve for the sub-perfect Nash equilibrium (SPNE) of the game represented in Tab. 2, and second, to investigate the efficiency properties of the emerged SPNE. Let us define the following six differentials:⁸

$$\Delta_{1,1} = SW_1^{S/FT} - SW_1^{FT/FT}, \quad \Delta_{2,1} = SW_1^{FT/S} - SW_1^{S/S},$$

$$\Delta_{1,2} = SW_2^{FT/S} - SW_2^{FT/FT}, \quad \Delta_{2,2} = SW_2^{S/FT} - SW_2^{S/S},$$

$$\Delta_{3,1} = SW_1^{S/S} - SW_1^{FT/FT}, \quad \Delta_{3,2} = SW_2^{S/S} - SW_2^{FT/FT}.$$

Result 1. *In an export-rivalry model with an unilateral passive participation, 1) when the share of participation is lower than one third, the choice to subsidy is the dominant strategy for both governments, that is, S/S is the SPNE; 2) when the share of participation is larger than one*

⁸ As is well known, through the analysis of the first four differentials, we may obtain any possible Nash equilibrium of the game.

third, a mixed regime, in which only the government of the participating firm intervenes, while that of the participated firm abstains from intervening, endogenously emerges, that is S/FT is the SPNE.

Proof: since $\Delta_{1,1} = \frac{[(1-b)(a-c)]^2}{4(2-b)(3-b)^2} > 0$, $\Delta_{2,1} = \frac{(-21b^2 + 8b - 7)(a-c)^2}{400(1+b)^2} < 0$,

$$\Delta_{1,2} = \frac{(9b^2 - 6b + 1)(a-c)^2}{8(1+b)(3-b)^2} > 0, \quad \Delta_{2,2} = \frac{(-33b^2 + 32b - 7)(a-c)^2}{100(1+b)(2-b)^2} < 0 \Leftrightarrow b < \frac{1}{3}, \quad \text{then}$$

result 1 follows.

Result 2. *Country 1 is better off in the S/S equilibrium than under FT/FT, provided that the share of cross-ownership is sufficiently high but not too high, that is when $0.186 < b < 0.333$, and is better off in the mixed S/FT equilibrium than both under S/S and FT/FT. Country 2 is better off in the mixed S/FT equilibrium (that is when $b > 0.333$) than under S/S (but not better than under FT/FT).*

Proof: since $\Delta_{3,1} = \frac{(6b^4 - 24b^3 - 41b^2 + 46b - 7)(a-c)^2}{25(1+b)^2(2-b)^2} < 0 \Leftrightarrow b < \frac{1}{3}$,

$$\Delta_{3,2} = \frac{(27b^2 - 12b - 7)(a-c)^2}{25(1+b)(3-b)^2} < 0, \quad \Delta_{1,2} > 0 \quad \text{and} \quad SW_2^{S/FT} - SW_2^{FT/FT} < 0, \quad \text{then result 2}$$

follows.

4. Conclusions

This paper has carried out an investigation of the traditional subject of strategic trade policy choices, taking into account the widely observed phenomenon in the real world of firms detaining passive participations in

rival companies. We have analyzed how cross-ownership changes the outcomes of the standard game in which governments set subsidies for their exporters. We have shown that passive cross-ownership remarkably alters the choice of the policy instrument, the typology of equilibrium and its efficiency properties. In fact, although firms compete à la Cournot, the government of the participated firm can find optimal to tax export if the share of cross-ownership is adequately large. Moreover, when the cross-ownership share is sufficiently large (at least one third), the governments' game equilibrium shifts from an activist regime for both countries to a mixed regime in which only the government of the participating firm adopts a strategic trade policy, while that of the participated firm remains neutral. In addition, even in the case of the traditional common activist regime equilibrium, the classical prisoner's dilemma situation disappears, provided that cross-ownership share is at least about one fifth, because subsidization becomes optimal for the government of the participating firm. Finally, in the presence of the mixed equilibrium, subsidization becomes optimal (resp. inefficient) for the government of the participated firm (resp. the government of the participating firm).

Future research is definitely recommended to check the robustness of the present findings under a more extended game framework in which firms compete à la Bertrand in the presence of differentiated products or a framework considering managerial firms, network industries, R&D investments, and the presence of unionized labor force.

References

Alley, W., (1997). Partial ownership arrangements and collusion in the automobile industry. *Journal of Industrial Economics* 45, 191-205.

- Amundsen, E. S., Bergman L., (2002). Will cross-ownership re-establish market power in the Nordic power market? *The Energy Journal* 23, 2, 73-95.
- Bandyopadhyay, S., Bandyopadhyay, S. C. (2001). Efficient bargaining, welfare and strategic export policy. *Journal of International Trade & Economic Development*, 10(2), 133-149.
- Bank of Italy, (2008). The evolution of ownership and control structure in Italy in the last 15 years, mimeo (https://www.bancaditalia.it/pubblicazioni/altri_atticonvegni/2008-corporate-governance-ita/evolution_ownership_control_structures.pdf).
- Barcena-Ruiz, J. C., Olaizola, N., (2007). Cost-saving production technologies and partial ownership. *Economics Bulletin* 15, 6, 1-8.
- Brander, J.A., (1981). Intra-industry trade in identical commodities. *Journal of International Economics*, 11, 1-14.
- Brander, J. A., (1995). Strategic trade policy. In Grossman, G. M. and Rogoff, K., eds., *Handbook of International Economics*, vol. 3, 1395-1455. Elsevier.
- Brander, J. A., and B. J. Spencer (1984): "Tariff protection and imperfect competition," in *Monopolistic Competition in International Trade*, ed. by H. Kierzkowski, pp. 194–206. Oxford University Press.
- Brander, J.A., and B.J. Spencer, (1985). "Export Subsidies and International Market Share Rivalry," *Journal of International Economics* 18, 83-100.
- Brander, J.A., and Spencer, B., (1988). Unionized oligopoly and international trade policy. *Journal of International Economics* 24, 217-234.

- Collie, D. R. (1997). Delegation and Strategic Trade Policy. *International Economic Journal*, 11(3), 35-46.
- Colonques, R.M., (1997). Delegation and international oligopoly. *Revista Española de Economía*, 14, 269-286.
- Das, S. P., (1997). Strategic managerial delegation and trade policy. *Journal of International Economics*, 43, 173–88.
- Eaton, J., and Grossman, G.M., (1986). Optimal Trade and Industrial Policy under Oligopoly. *The Quarterly Journal of Economics* 101, 383-406.
- Fanti, L., (2013). Cross-ownership and unions in a Cournot duopoly: When profits reduce with horizontal product differentiation. *Japan and The World Economy* 27 (c), 34 -40.
- Fanti, L. (2014). Welfare effects of cross-ownership in a unionised duopoly, *Economia e Politica Industriale - Journal of Industrial and Business Economics*, vol. 41(2), 21-41.
- Fanti, L. (2015). Partial Cross-Ownership, Cost Asymmetries, and Welfare. *Economics Research International*, Volume 2015, Article ID 324507, 1-7.
- Fanti L., and Buccella D. Strategic trade policy and union–firm bargaining agenda. *Journal of International Trade & Economic Development*, forthcoming.
- Farrell, J., Shapiro C., (1990). Asset ownership and market structure in oligopoly. *RAND Journal of Economics* 21, 275–92.
- Gilo, D., Moshe, Y., Spiegel, Y., (2006). Partial cross ownership and tacit collusion. *The RAND Journal of Economics* 37: 81–99.
- Gilo, D., Spiegel, Y. and Temurshoev, U., (2008). Partial cross ownership and tacit collusion under cost asymmetries, mimeo,

www.ihs.ac.at/vienna/resources/Economics/.../20090604_Spiegel_Paper.pdf

- Grossman, G. M., Richardson, J. D., (1986). Strategic U.S. Trade Policy: A survey of issues and early analyses. In Baldwin Robert E. and Richardson J. D., eds., *International Trade and Finance*, 3rd ed., Little, Brown, Boston, 95-113.
- Helpman, E. and Krugman, P. R. (1989). *Trade Policy and Market Structure*. Cambridge, MA: The MIT Press.
- Krugman, P., (ed.) (1986). *Strategic Trade Policy and the New International Economics*, The MIT Press, Cambridge, Massachusetts.
- Macho-Stadler, I., and Verdier, T., (1991). Strategic managerial incentives and cross ownership structure: A note. *Journal of Economics* 53, 3, 285-297.
- Miller, N.H., Pazgal, A., (2005). Strategic Trade and Delegated Competition. *Journal of International Economics* 66, 215-231.
- Morck R., and Nakamura M., (1999). Japanese corporate governance and macroeconomic problems, Harvard Institute of Economic Research, Discussion Paper Number 1893.
- Ono, H., Nakazato, T., Davis, C., Alley, W., (2004). Partial ownership arrangements in the Japanese automobile industry: 1990–2000. *Journal of Applied Economics* 7 (2), 355–367.
- Osano, H., (2011). Partial ownership and strategic alliances with reallocation of corporate resources, *Journal of Institutional and Theoretical Economics* 167, 2, 202-223.
- Pal, R., (2010). How much should you own? Cross-ownership and privatization, Indira Gandhi Institute of Development Research,

Mumbai September, <http://www.igidr.ac.in/pdf/publication/WP-2010-015.pdf>.

- Parker, P.M., and Roller L.H., (1997). Collusive conduct in duopolies: multimarket contact and cross-ownership in the mobile telephone industry. *RAND Journal of Economics* 28(2), 304-322.
- Reitman, D., (1994). Partial ownership arrangements and the potential for collusion. *Journal of Industrial Economics* 42, 313–322
- Spencer, B. J., (1986). What should trade policy target? In Krugman P., ed., *Strategic Trade Policy and the New International Economics*, The MIT Press, Cambridge, Massachusetts.
- Spencer, B. J., and Brander, J., (1983). International R&D rivalry and industrial strategy. *Review of Economic Studies* 50, 707–22.
- Spencer, B. and Brander, J., (2008) “Strategic trade policy”, in S. N. Durlauf and L. E. Blume (Eds.), *The New Palgrave Dictionary of Economics*, Vol. 8 (2nd Edition). London: Palgrave Macmillan, 367-371.
- Trivieri, F., (2007). Does cross-ownership affect competition? Evidence from the Italian banking industry. *Journal of International Financial Markets Institutions and Money* 17(1), 79-101.
- Wang, L. F. S., Wang, Y.-C., and Zhao, L., (2009). Market share delegation and strategic trade policy. *Journal of Industry, Competition and Trade*, 9(1), 49-56.
- Wang, L. F. S., Wang, Y.-C., and Zhao, W., (2008). Strategic Trade Policy in Bargaining over Managerial Delegation Competition. *Economics Bulletin*, 6(38), 1-8.
- Wei, F., (2010). Managerial Delegation in Strategic Export Policies. *Journal of Economic Research* 15, 109-128.

Please note:

You are most sincerely encouraged to participate in the open assessment of this discussion paper. You can do so by either recommending the paper or by posting your comments.

Please go to:

<http://www.economics-ejournal.org/economics/discussionpapers/2016-7>

The Editor