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Welfare effects of competitive lobbying efforts in international oligopoly markets☆

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ABSTRACT

Conventionally, rent-seeking activities have been considered to deteriorate social welfare and to distort resource allocation. This paper examines whether rent-seeking behavior can improve social welfare by focusing on the welfare effects of firms' competitive lobbying efforts when governments can impose market entry regulation against foreign firms. We demonstrate that competitive lobbying efforts can improve social welfare when such lobbying efforts are directed to reduce market entry barriers. In addition, social welfare can be maximized when the government shows the maximum sensitivity to the foreign firm's political contributions while maintaining competitive market structure. Moreover, it is shown that the dominant strategy for a domestic firm is to allocate more resources to R&D sectors while it is optimal for foreign firms is to exert more efforts in lobbying to reduce the market entry barriers when a government makes political economic approach in market entry regulations.

1. Introduction

Intensified competition for strategic market leadership advantages is a typical feature of the recent international oligopoly in leading industries. In addition to intense corporate competition in international oligopolies, the role of government intervention to provide strategic advantages to domestic firms has been heavily emphasized. Since the seminal paper by Brander and Spencer (1985), strategic trade policies and strategic industrial policies including R&D policies have been widely studied, with a particular focus on the role that the government plays in providing domestic firms with strategic market leadership advantages in their competition with foreign firms in international oligopoly markets.[1]

The major role of the government in strategic trade policy is to provide a Stackelberg market leadership advantage to domestic firms in their competition with foreign firms. Strategic trade policy tools range from traditional import tariffs and export subsidies to standard regulation of various types of technology and other red-tape administrative regulation of foreign firms. Because import tariffs and export subsidies are easily accessible and strongly controlled by the current WTO rules, technology standard regulations and other types of administrative red-tape are more often used as policy tools by the government for strategic purposes.

Moreover, the political economic factors in the strategic trade and industrial policy-making process have attracted strong attention since the monumental study by Grossman and Helpman (1994).[2] Although many interesting features of the political economic aspects of trade and industrial policies have been discovered, the welfare effects of political economic factors such as lobbying efforts by political contributions and rent-seeking activities to collect contributions for the policy decision-making process have been found in general to be negative. The common perception is that lobbying efforts and rent-seeking efforts significantly distort resource allocation. The dominant argument states that because the majority of political contributions are motivated by small group interests at the expense of the public interest, rent-seeking behaviors to collect political contributions reduce social welfare by significantly distorting resource allocations.

The intense lobbying efforts of US automobile industries to reduce Korean car market entry barriers in the recent Korea–US free trade

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[1] See Leahy and Neary (1994) and Miyagiwa and Ohno (1997) for studies of strategic R&D policies. Maggi (1999) is a good reference for the extension of strategic trade policy to consider informational barriers. See Morasch (2000) and Collie (2003) for the relationship between strategic trade policies and industrial structures. See Ishikawa and Spencer (1999), Leahy and Neary (2000), Fung et al. (2009), and Bandyopadhyay et al. (2004) for various extensions of strategic trade policies.

[2] See Levy (1999) for a straightforward analysis of the effect of lobbying in international trade policy cooperation, and Magee (2002) for endogenous trade policies and the free-riding problem associated with lobbying efforts. Konishi et al. (1999), Mitra (2002), Bombardini (2008), Gawande and Krishna (2005), Stoyanov (2009) are good examples of the application of political economic approaches to policy-making processes with a focus on lobbying efforts.

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agreement (FTA) negotiations are an example of the political economic issues related to strategic competition in international oligopolies. Based on the traditional perception of the effects of lobbying efforts, the Korean government tried to avoid the US automobile industries' lobbying efforts to change the Korean tax system of differentiated tax rates depending on engine size. In addition, the US industries lobbied to change several Korean technological regulations to their advantage, which the Korean government attempted to avoid. Contrary to the Korean government's approach, the US government was quite open to the lobbying efforts of diverse industries in the trade negotiation process. In addition, there are numerous examples of competitive international lobbying for the adoption of technology standard processes such as mobile phone technology and mobile TV technology.[3]

Repeated competitive lobbying efforts in the trade and industrial policy decision-making process in oligopoly markets have increased interest in the optimal government policies with respect to lobbying efforts in the trade policy and industrial policy decision-making process. The first question is whether lobbying efforts and rent-seeking behaviors always have an adverse effect on welfare with a distortion in resource allocation. The second question is whether the government should always ignore the lobbying efforts of interested industries. Motivated by these questions, we examine the welfare effects of lobbying efforts by a domestic and a foreign firm and the rent-seeking activities of the government to collect the political contributions made by two firms that were competitively lobbying for strategic advantages in an international oligopoly industry.

There is a growing literature on welfare effects of competitive lobbying efforts is vast; we highlight some of this literature relevant to our study below. Hillman et al. (2001) analyze resource allocations of firms in terms of lobbying and internal cost-reducing activities and examine whether an index of industry concentration affects the protection level. Unlike Hillman et al. (2001), we consider the lobbying sensitivity of the government to firms to raise political contributions. Stoyanov (2009) examines the effect of foreign lobbying on the trade policies of a member country of the Free Trade Agreement (FTA) based on a monopolistically competitive political economy model in which the government determined external tariffs endogenously. They show that an organized lobbying group in an FTA partner country tends to raise trade barriers and provides empirical evidence for their argument using Canadian data. Qiu (2008) studies the equilibrium lobbying position in intra-industry trade based on a two-country and two-firm model. He demonstrates that the optimal strategy for an efficient firm is to lobby for free trade while for a relatively inefficient firm, the optimal strategy is to lobby for protection of the equilibrium. In a similar context, Bandyopadhyay et al. (2004) focused on the role of corporate heterogeneity in endogenous lobbying efforts for export subsidies, and show that the influence of corporate lobbying on subsidy provision could reduce social welfare when the firms are relatively homogeneous.

While these earlier studies made significant contributions to our understanding of the role of corporate heterogeneity in the endogenous lobbying strategy decision-making process, the welfare effects of an asymmetric governmental approach to these different lobbying sources have not previously been addressed. Motivated by these unanswered questions, our focus in this study was to determine the effects of an asymmetric approach by the government to different lobbying efforts on the policy decision-making process. Furthermore, we investigated the effects of rent-seeking activities on social welfare in this context.

Based on a simple duopoly model where firms compete in Cournot fashion while the government policy on market entry regulation is influenced by the competitive lobbying efforts of the foreign and domestic firm, we demonstrate that under certain circumstances, lobbying efforts might improve social welfare. When a foreign firm lobbies to reduce market entry barriers, the government's rent-seeking activities to collect political contributions for the market entry regulation process can improve social welfare. Moreover, the government can maximize political social welfare by displaying maximum sensitivity to the foreign firm's contribution while maintaining a competitive market. The rationale for the welfare improving effect of foreign firm's lobbying efforts is the reduction of the market entry barriers and enhanced competition in the market caused by the foreign firms' lobbying efforts.

In addition, if market entry regulation is imposed on the foreign firm, the optimal strategy for the domestic firm is to allocate more resources to R&D investment than to lobbying efforts, while the optimal strategy for the foreign firm is to allocate more resources to lobbying efforts than to R&D investment. The assumption is that because the foreign firm is directly affected by the market entry regulations set by the government, it is optimal for the foreign firm to exert more efforts towards lobbying when the government sensitivity is higher than a critical level. However, it is in fact optimal for the domestic firm to allocate more resources to R&D investment than to lobbying efforts because the marginal gains from R&D investment are superior to those achieved by lobbying.

The paper is organized as follows. The baseline model is presented in Section 2, and we examine the impact of asymmetric government sensitivity to competitive lobbying on market structure. In Section 3, the optimal corporate strategy to allocate resources between R&D investment and lobbying efforts is considered taking the direct impact of government policies on market entry regulation into account. Section 4 examines the welfare effects of the lobbying efforts and rent-seeking activities to collect political contributions, as well as the optimal policy with respect to lobbying efforts. Section 5 concludes with a discussion on the policy implications.

2. The model

Suppose that two firms compete in homogeneous products. The utility function of a representative consumer is given by

$$U = \alpha q_1 + \alpha q_2 - \left(q_1^2 + q_2^2\right)/2 - q_1 q_2 + m, \tag{1}$$

where q_1 is produced by the domestic firm and q_2 is produced by the foreign firm, where m is the numeraire good.

The inverse demand curve is derived from the utility maximization problem as follows:

$$p = \alpha - (q_1 + q_2) \tag{2}$$

The structure of the game is as follows. In the first stage, the government decides on market entry regulations, which might function as entry barriers to new foreign entrants to the market to maximize the political objective function. The government can impose market entry regulations, such as technology standard regulations against the foreign firm, Firm 2, to provide a strategic advantage to the domestic firm, Firm 1. Firm 1 can lobby the government to increase the entry barriers for Firm 2, while Firm 2 can counter-lobby the government to reduce the entry barriers by providing political contributions. The government decides market entry regulations, i.e., the market entry barrier against Firm 2, by choosing how sensitively she will respond to each firm's lobbying efforts. If the government is more sensitive to the foreign firm's lobbying efforts, the entry barriers against Firm 2 will be lowered, resulting in easier market access for Firm 2 due to a decrease in the market price.

[3] See Funk (2009) for a general review of the evolution of technology and standard setting methods considering the influence of social pressures. Fontana (2008) discusses strategic competition in a standard setting competition, and Ossokina and Swank (2008) discuss the influence of informational barriers in the technology standard adoption process.