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An analysis of policy harmonization on privatization and trade liberalization

Chia-Chi Wang [a,1], Jiunn-Rong Chiou [b,*]

[a] Department of Business Management, Tatung University 40, Sec. 3, Zhongshan N. Rd. Zhongshan Dist., Taipei City 104, Taiwan
[b] Department of Economics, National Central University 300, Jhongda Road, Jhongli District, Taoyuan City, 32001, Taiwan

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ABSTRACT

This paper investigates optimal privatization and trade policies in an international mixed oligopoly model. When both policies are available, the optimal policy combination is partial privatization and a positive tariff. Moreover, if one of the two policies is not available, the optimal trade liberalization and optimal privatization would be equivalent in welfare as long as the demand is linear. Implementing privatization and/or trade policies obtains the win–win situation for two countries. Besides, the effect of full privatization on welfare is ambiguous and depends crucially on the difference between firms' marginal cost. Lastly, by adopting a low degree of privatization block trade may increase domestic welfare.

1. Introduction

In recent years, trade liberalization and privatization have become important trends globally. Many developing countries and transition economies such as China, India, and those in Latin America in recent decades have been increasingly privatizing their state-owned enterprises, while at the same time some of them have been experiencing trade liberalization, such as negotiations for joining the WTO or establishing FTA. In order to pave the way for trade liberalization, these countries have to substantially reset import tariffs on a variety of imported goods. The major concern of privatization is to improve social welfare by reallocating output from the less efficient public firm to the efficient private firms. Undoubtedly, the welfare effect of privatization will be affected by the trade liberalization policy when there exist foreign import competitors. A decrease in the tariff, through its effect on the foreign firm's cost, would influence the benefits and costs of privatization. Therefore, how the trade liberalization affects the effect of privatization should be an important concern for governments.

On the other hand, full trade liberalization in reality is not a favorite policy for governments for some reasons. One major reason is that the market structure is usually not perfectly competitive. Therefore, the optimal trade liberalization policy in an imperfectly competitive market, of course, could be affected by whether a public firm is existing and the degree of privatization.

The purpose of this paper is to discuss the causality between trade liberalization and privatization, and provide the policy implications for developing countries about the policy harmonization between the two policies.

* Corresponding author. Tel.: +886 3 4227151; fax: +886 3 4222876.
E-mail addresses: chiachi95@gmail.com (C.-C. Wang), jrchiou@livemail.tw (J.-R. Chiou).
[1] Tel.: +886 2 2182 2928x6665.

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The issue of privatization has been widely studied in the literature. One strand of literature considers a mixed oligopoly in a closed economy, which consists of a public firm and the domestic private firms.[2] Another strand of literature considers the model in an open economy, which allows the presence of foreign firms in the domestic country (Fjell & Pal, 1996; Pal & White, 1998; Chao & Yu, 2006; Long & Stähler, 2009; Wang, Lee, & Hsu, 2014, and so on.) The major difference between two strands of literature is that whether the welfare includes the private firm's profit, and thus it would affect the privatization policy. Fjell and Pal (1996) analyze the effect of open-door policy on welfare without strategic trade policy. Other studies further consider the effect of privatization on the strategic trade policies. Pal and White (1998) extend Fjell and Pal's (1996) model to consider the impact of full privatization on the optimal tariff policy. They indicate that a fully-privatized public firm may lead to a higher optimal tariff under some parameter pace. Long and Stähler (2009) discuss the impact of privatization on the trade policy when the government can simultaneously subsidize domestic firms and impose import tariffs. If a rival is in the home market, the optimal tariff is independent of the degree of privatization, and the optimal subsidy decreases with privatization if the tariff is positive. A common feature of these papers is that they do not consider the privatization and tariff policies simultaneously.

Chang (2005) is, as far as we know, the only study that analyzes the optimal privatization and trade policies at the same time. He considers a model in which a public firm competes with a foreign firm to examine the policy effects on the market equilibrium with general demand, cost structure and two competition types (Cournot and Stackelberg competition). He indicates that if both policies are used, the optimal level of privatization and tariff depends crucially upon the strategic substitutability–complementarity assumption. If only one policy is used, the degree of privatization and tariff are positively related under linear demand and constant marginal costs, but this result does not hold under the case of increasing marginal costs.

Despite Chang (2005) analyzing the causality of privatization and tariff policies, some important issues, which are common in reality, are still worthy to be considered and discussed further. It is usual to see that the domestic public firm competes with not only the foreign but also the local private firms. Whether the local firm is existing or not, of course, would lead to the different effects of the two policies. For example, if there exist local private firms, then the benefit of privatization could be shared to the local firm. In addition, aside from the domestic government enforcing the policies, the foreign government may also implement the export policy to enhance its firm's competitiveness.

Here, we attempt to investigate the two important issues which we mentioned above by the aid of Chang's (2005) model to be a basic model. That is, we consider an international mixed oligopoly model which consists of one (partially publicly-owned) domestic firm and one foreign firm.[3] The public firm is less efficient than the foreign one. They produce a homogenous good and engage in Cournot competition in the domestic market. We will first review the results in Chang's (2005) model and then modify the model to check the robustness of the optimal policies.

In addition, we are curious about three possible cases which are also the important issues. First, we analyze whether or not the equivalence of tariff and privatization policy holds. In fact, a government sometimes faces the situation where only one of the two policies is available.[4] Therefore, if the equivalence of the two policies holds, then the adoption of policies would be more flexible. We investigate the case that only one policy is available and the other one cannot be adjusted arbitrarily. Second, a privatization policy may not even allow the execution of partial privatization in some countries, so the government may only have two choices: either full nationalization or full privatization.[5] If the government can only choose either full nationalization or full privatization, which policy is more beneficial for domestic welfare? Third, in the popular view, the presence of international trade is better than the absent one since it yields trade gains. This argument is usually valid under a pure oligopolistic circumstance. However, could this result still hold if the market structure is a mixed oligopoly? Is it possible that the disappearance of trade due to a lower degree of privatization benefit domestic welfare?

This paper is organized as follows. We start by presenting the model in Section 2. Then, in Section 3, we discuss the optimal policies in the presence of the domestic private firm. Section 4 analyzes the bilateral policies that the foreign government implements the export policy. Section 5 investigates whether the equivalence of tariff and privatization holds or not. Section 6 re-examines the welfare under the case of full privatization. Section 7 considers the effect of disappearing trade on welfare. Section 8 provides some concluding remarks.

2. The model

A (partially) publicly-owned domestic firm and a foreign firm, represented by firm h and firm f, produce a homogeneous product and serve the domestic market. Assume that the inverse demand function is $p(Q) = a - Q = a - q_h - q_f$. Here, p is the price of the good, q_h (q_f) is firm h's (firm f's) output, and Q is the total output.

[2] See De Fraja and Delbono (1989), Fershtman (1990), Cremer, Marchand, and Thisse (1991), Fujiwara (2007), Mukherjee and Sinha (2014), Nakamura (2015), and so on.

[3] Note that according to the definition of a "state-owned enterprise" (SOE), a SOE can be either wholly or partially owned by the government. To provide the most general discussion, we adopt this definition herein.

[4] In an ideal situation, both privatization and tariff policies are available for the government, but in reality the enforcement of a tariff policy may not be easy because of the requirements of a free trade agreement or other international political factors. Similarly, implementing a privatization policy may also encounter some difficulties. For example, the culture of state-owned enterprises is quite different from that of private ones, so the employees may lodge protest when a state-owned enterprise is partially privatized.

[5] Some studies in the literature on privatization only discuss these two extreme cases, such as De Fraja and Delbono (1989), Cremer et al. (1991), White (1996), Mujumdar and Pal (1998), Pal and White (1998), and so on.