# 行政院國家科學委員會補助專題研究計畫成果報告

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**東亞經濟發展與大陸因素**
**—貿易政策與競爭政策互動關係之探討**

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Can Low Import Shares Coexist with Low Tariffs?
----The Role of Vertical Keiretsu

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## 中文摘要

**日本是世界經濟強國之一, 但其過度低的進口比率卻與其對外貿易的輝煌成果形成極大的對比，此一現象因此引起產經學界熱烈的討論。部份學者(例如** Balassa (1986)**,** Bergsten and Norland (1993)**等)由實証中發現日本進口比率相對於其他工業化國家而言確有過低現象。惟日本進口關稅率極低，因此無法用來解釋此一現象**(Drysdale (1993))**。不過** Fung (1991)**與** Lawrence (1991)**卻發現此現象與日本** keiretsu **產業結構**(**即各廠商之間交互持股**)**之間具有顯著關聯性。上述文獻顯示低進口、低關稅、與** keiretsu **產業結構在日本是並存的，但此三者之間究竟有何關係？特別是為何低進口與低關稅可以並存？其是否與** keiretsu **產業結構有關？至目前為止，文獻對於這些問題的探討卻仍闕如，這也是本文所欲解答的部份。本文建立一垂直型** keiretsu **的理論模式，我們發現** keiretsu **的存在是此一現象得以產生的原因之一, 不過只有在上游廠商對下游廠商有持股的情況下才會產生，至於下游廠商對上游廠商的持股，則不會帶來低進口與低關稅並存現象。**

## Abstract

Whether there is inadequate access of foreign products to the Japanese market has attracted extensive discussions not only in business circles but also in economic literature. By now, it is widely accepted that Japan has low import shares relative to other industrial countries. Some attempts therefore have been made to identify its causes. Fung (1991) and Lawrence (1991), for example, show that this trade structure is significantly related to Japan's informal trade barriers such as keiretsu affiliation. The formal (official) trade barriers, however, may not contribute to Japan's low import shares, as tariffs and non-tariff barriers in Japan are also relatively low when compared with other industrial countries (Drysdale, 1993). The above discussion seems to show that Japan's low import share coexists with low official trade barriers. Yet little study has been done so far to explain this phenomenon. This paper intends to provide some answer for it. Since we suspect that this phenomenon may have something to do with keiretsu industrial structures, we will therefore examine whether, in the presence of keiretsu industrial structures, low official trade barrier (low tariff) can constitute an optimal policy for the importing country.

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## 1. Introduction

Whether there is inadequate access of foreign products to the Japanese market has attracted extensive discussions not only in business circles but also in economic literature. Saxonhouse (1993), for example, argues that much of Japan's distinctive trade structure can be explained by her distinctive pattern of factor endowments, and hence concludes that Japan is not a significant underimporter. Balassa (1986) and Bergsten & Noland (1993), on the other hand, show that Japan's import share is significantly lower than those of other industrial countries. Moreover, Fung (1991) and Lawrence (1991) show that this trade structure is significantly related to Japan's informal trade barriers such as keiretsu affiliation.[1] The formal (official) trade barriers, however, may not contribute to Japan's low import shares, as tariffs and non-tariff barriers in Japan are also relatively low when compared with other industrial countries (Drysdale, 1993).

The above discussion seems to show that Japan's low import share coexists with its low official trade barriers. However, little study has been done so far to explain this phenomenon. This paper intends to provide some answer for it. Since we suspect that this phenomenon may have something to do with keiretsu industrial structures, we will therefore examine whether, in the presence of keiretsu industrial structures, low official trade barrier (low tariff) can constitute an optimal policy for the importing country.

Although keiretsu has several forms, in this paper we will only focus on the vertical keiretsu. The paper consists of 5 sections. Section 1 is introduction. Section 2 sets up a theoretical model in which an upstream firm and a downstream firm are interconnected through cross holding of shares, and the downstream firm competes with a foreign firm for the domestic market. Tariff is considered here as the only official trade barrier that the foreign firm faces. Section 3 then derives the Subgame Perfect Nash Equilibrium (SPNE) outcome for the case of cross shareholding. Why the vertical keiretsu industrial structure may lead to a low optimal tariff and low imports will be discussed in this section. Section 4 then discusses the effect of cross holding of shares on the domestic output, imports, and the commodity price when the optimal tariff is adopted. Last section concludes the paper.

## 2. Main Conclusions:

We derive the following propositions:

**Proposition 1**: Given an import tariff *t*, an increase in the extent of $H^u$'s affiliation to $H^d$ raises the domestic production but lowers the imports. However, the extent of $H^d$'s affiliation to $H^u$ has no effect on the domestic output and imports.

[1] Fung (1991), for example, investigates the impact of keiretsu on trade behaviors. He finds a highly significant, if small, negative relationship between US-Japan sectoral balance and Japanese keiretsu affiliation. This negative relationship persists even when the keiretsu variable is disaggregated between horizontal keiretsu and vertical keiretsu (Lawrence, 1991).

**Proposition 2**: The optimal tariff is negatively related to the degree of $H^u$'s affiliation to $H^d$, but is independent of the degree of $H^d$'s affiliation to $H^u$.

**Proposition 3**. With an endogenized tariff, the impact of an increase in the degree of $H^u$'s affiliation to $H^d$ is qualitatively the same as the case where the tariff is exogeneously given. However, the low level of the endogenized tariff tends to mitigate the impacts on the domestic output and imports, but intensify the decrease in the commodity price.

3. Discussions

The above propositions imply that the low share of imports in the domestic country could coexist with the low level of tariff (official trade barrier) because of the presence of the vertical keiretsu industrial structure (informal trade barrier) in which $H^u$ holds some proportion of $H^d$'s shares. Also, this vertical keiretsu tends to intensify competition, raises domestic output, lowers imports, decreases domestic price, and hence benefit the domestic consumers.

Since highly competitive and efficient markets, according to the literature of strategic trade policies, will reduce the domestic government's incentive to impose stricter trade barriers, the existence of keiretsu therefore lowers the need for stricter official trade barriers. This suggests that Japan's lower tariff as compared with other industrial countries may be a result of the existence of her keiretsu industrial structure. And the low import share may also be a result of her highly cost competitiveness stemming from the keiretsu industrial structure.

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