博士学位請求論文要旨

Essays on Agglomeration and Economic Policy

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The modern world has witnessed dramatic improvements of transportation infrastructure and information technology, making easy the international movement of goods, people and capital. Despite these advancements, we are, of course, still not free from various kinds of impediments like physical distance and barriers to trade. In such a world, where you locate matters a lot; special attention should be paid to spatial aspects of economic activities. Economic activities tend to be agglomerated in a particular place with a view to saving costs of transporting goods. This is the notion of "home-market effect", or the fundamental wisdom we learn from the new trade theory/ new economic geography.

When considering economic policies and development strategies, it is crucially vital for policy makers to take into account spatial aspects; otherwise, they are likely to draw misguided conclusions. This dissertation consists of three essays on addressing the consequences of policies in agglomeration economies with specific focuses on tax competition and industrial development.

Chapter 1 gives an overview of economic geography models and gives a selective review of the literature related to our studies. In particular, we develop a variant of new economic geography model, called the footloose capital model and explain basic notions in the field using the model. It also briefly discusses the overviews of subsequent chapters.

Chapter 2 is motivated by the successful examples of small countries in international tax competition. Thanks partly to their low corporate tax rates, countries like Singapore, Ireland and Estonia have attracted a massive inflow of export-oriented foreign direct investment. The research question in the chapter is why some small countries choose low tax rates and can host investment from

abroad.

To address this question, we analyze capital tax competition between two governments based on a simple economic geography model characterized by mobile capital, international oligopoly and trade costs. In our model, firms decide their location by responding to after-tax profits and engage in Cournot competition in the markets of both countries. The present model has two distinct features. First, the two countries are asymmetric in that population and capital endowment are larger in one country than those in the other country. By introducing size asymmetry of countries, we can capture a part of international tax competition in the real world. Second, capital owners engage in lobbying activities to extract favorable policies from governments. Based on the common agency approach, the objective of governments is formulated in a way that they consider not only their domestic residents' welfare, but also the political contributions by capital owners when deciding their tax rate. Consequently, the resulting tax policy and distribution of firms are biased in favor of the interests of capital owners, which seems plausible in the modern society where political pressure by firms influences policy decision-making processes.

Capital owners as interest groups contribute political donations to their domestic governments with a view to raising after-tax profits of firms. An increase in the tax rate in general reduces after-tax profits and this negative impact varies between the asymmetric countries. A higher tax rate is a direct burden on net profit income, but at the same time it tends to mitigate domestic competition and raise gross profits. This reducing-competition effect of taxes is less significant for firms in the small country than for those in the large country because the relative importance of domestic profits as compared with export profits is lower for small-country firms than for those in large-country firms. Thus capital owners in the small country favor lower taxes more than those in the small country. As a result of contributions based on these considerations, when trade costs are small and the governments care about contributions heavily, the small country chooses a lower rate and host a more-than-proportionate share of firms.

Chapter 3 shares the same interests and background as in Chapter 2, i.e., some small countries attracting a large amount of foreign capital. Some successful countries are different from many others not just in size, but also in attitudes toward their tax policies. In Ireland, for example, the government has kept announcing that it is committed to its world's lowest corporate tax rate.

Singapore has a fairly stable political system allowing its government to have long-term economic plans, including keeping its tax rate low. Chapter 3 studies the role of governments' commitment to their tax schedule on the result of tax competition. To do so, it abstracts away from the difference of market size and focuses on dynamic strategic interactions between governments.

In a symmetric two-country economic geography model, we describe the strategic interactions between two governments as an infinite-horizon dynamic game. The governments maximize their lifetime payoffs through taxes and subsidies while considering the migration process of myopic firms. Assuming the governments care mostly about future payoffs and that they will agree on Pareto efficient locations, we examine two forms of commitment governments may make: full commitment and no commitment. The former corresponds to the open-loop Nash equilibrium while the latter corresponds the Markov-perfect Nash equilibrium. In the full commitment case, both governments announce a tax schedule over the entire horizon at the outset of the game and never change it. In the no commitment case, however, they choose their tax rate at each point in time by observing the current distribution of firms.

We show that if governments are fully committed to their predetermined tax schedule, either of the two countries will become the core nation with full agglomeration of firms when trade costs are low enough to generate agglomeration tendencies. If commitment is impossible, both countries may end up with sharing an equal number of firms even when trade costs are low. The results suggest the effectiveness of consistent policies in Ireland and Singapore.

Chapter 4 turns our attention to the specific development strategy, namely, increasing openness by liberalizing trade and hosting foreign direct investment. This chapter is motivated by the fact that outward-oriented strategies worked well in East Asia while they did not in Latin America. The four Asian tigers are a notable example of export-led growth models. In Latin America, however, accepting the comprehensive liberalization package in the 1990s ("Washington Consensus") have resulted in expanding exports of primary goods and (seemingly) hindering modernization of economies. Chapter 4 attempts to explain this contrasting performances of industrialization focusing on the openness of traditional sectors.

We build a two-country, two-industry and two-factor economic geography model where we interpret a constant-returns sector as a traditional one and an increasing-returns sector as a modern

one. To describe the process of economic development, we assume non-homothetic preferences to replicate the Engel's law where the income elasticity of demand for the traditional good is less than unity. Assuming one country has a more productive traditional sector than the other, we look at how the industrial structure evolves in response to continuing trade liberalization in the modern sector.

According to our analysis, the effects of liberalizing trade in the modern sector on industrialization depend on whether or not the traditional sector is open to international markets. If the traditional sector is not traded, trade liberalization induces a disproportionate share of modern firms to locate in the productive country, while if the traditional sector is internationally traded, liberalization may cause industry delocation from the large country to the small one. Our results are supported to some extent by the fact that the East Asian countries have liberalized trade in manufacturing goods more extensively than other traditional sectors, while the Latin American countries have undertaken the comprehensive liberalization across all sectors.

The final chapter summarizes the insights obtained in Chapters 2 to 4 and suggests directions for future research.