International Trade Theory and Regional Economics

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A large body of literature has emerged concerning the balance of research between international trade theory and regional economic theory, following Krugman's (1991) timely article stressing the need to fill the gap between them. According to Krugman, international trade theory has been treated as one of the central areas of focus in economics while regional economics has been left to a minor one. The main reason for this is that trade theory, based on microeconomic theory, succeeds in making full use of economic theories of consumers and producers. Regional economics, on the other hand, takes the concept of distance as an important variable, so that general equilibrium theory, based on perfect competition models does not fit well into regional economic analysis. The concept of distance is closely connected to scale economies which usually do not fit well beside notions of perfect competition. (The only exception to this being the case of Marshallian external economies.)

In the 1980's, however, general equilibrium theory has developed so that scale economies and imperfect competition can now be accommodated within a single model. In addition, dynamic analyses of economics with increasing returns to scale have been also developed through endogenous growth theory. These recent successful developments in economic theory now make it easy to fill the analytical gap between theories of international trade and regional economics.

In what follows, I will discuss some of the problems included in the recent movement of the reciprocal interaction between trade theory and location theory from the view of trade theory.

Traditional trade theory based on the Ricardian and the Heckscher–Ohlin trade models assumes the following:

1) perfect competition
2) constant returns to scale
3) no transportation costs and
4) immobility of factors between countries.

Under these suppositions, the Heckscher–Ohlin trade theory, for example, explains the patterns of trade by comparative advantage based on unequal distribution of factor endowments between countries. In the traditional analysis of international trade, national borders play an important role while the distance between countries tends to be disregarded. The border is considered as the distance between countries. If we take distance more seriously, we have to also deal with scale economies. In this way imperfect competition becomes more realistic. Therefore, in order to introduce the concept of distance, we have to assume:

1') imperfect competition
2') increasing returns to scale
3') transportation costs

Moreover, in location theory, attention is not paid to national borders but rather to the location of the firm. Thus it is natural to assume
4') the mobility of goods and factors between regions.

Losch (1952) has developed location analysis within a general equilibrium model using assumptions (1') to (4'). Negishi (1972) paying his attention to Losch's work has employed it in the analysis of international trade. Although general equilibrium analysis under assumptions (1') to (4') has

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been elaborated in recent years, it has been taken up by regional economists in location theory much more than has been the case in trade theory by trade economists\(^{(1)}\). So it becomes necessary now to tackle the topic more from the perspective of trade theory.

In this regard, when we build a general equilibrium model with imperfect competition, a difficulty arises as how to formulate the behaviour of imperfectly competitive firms. In the general equilibrium model with a monopoly firm, for instance, it is usually assumed that the monopolist disregards both the income effect on demand and monopsony power in factor markets, which never appear in partial equilibrium analysis. Therefore, the analysis is essentially the same as for a partial equilibrium model. Therefore we need careful treatment of imperfectly competitive firms if we are to stress general equilibrium analysis\(^{(2)}\).

As for the assumption \((2')\), there multiple equilibria exist in an economy with scale economies. So, in order to determine which equilibrium is actually realized, we have to involve a dynamic process of adjustment and set an initial position for the economy. We need careful discussion of the dynamic process and the initial position, since they both affect the conclusion of our analysis\(^{(3)}\).

As far as transportation costs are concerned, a number of trade theorists have tried to accommodate them into trade models of the Heckscher-Ohlin type. Most of these treatments add an extra cost as the transportation cost involved when commodities cross a national border. So that this cost is not relevant to the distance. Rather it is similar to a tariff\(^{(4)}\). Because of this, perfect competition can still survive with transportation costs. Thus we need to assume more realistic transportation costs which reflect the distance involved.

From the perspective of trade analysis accommodating location theory, one interesting topic which has not been seriously investigated as yet, is the analysis of multinational firms. The studies on multinational firms in international trade have been as yet confined to the Heckscher-Ohlin framework\(^{(5)}\). Thus the difference in factor endowments is a key factor to determining the location of the firm. The behaviour of a multinational firm appears to be closely connected with not only the border but also the location in the sense of distance. Thus, the analysis should be extended to incorporate location theory.

The analysis of international migration encompasses a similar problem. In recent years, the analysis of international trade with labour migration has received a great deal of attention by trade theorists. However, this analysis is also firmly located in the Heckscher-Ohlin tradition, implying that the costs of migration are assumed away or dealt with in a similar manner to the case of transportation costs\(^{(6)}\). Therefore, by introducing traveling costs based on the notion of distance, it may be possible to investigate more appropriately, the patterns or types of migration.

Lastly, since international trade is intrinsically related to the movement of factors and commodities, transportation costs should be reflected by distance and play a key role in the analysis of international trade. Thus, the location of firms becomes important. On the other hand, consumers are dispersed among countries, so that the role of distributors also becomes significant in the sense that they connect or match consumers with producers. Thus the problem can be farther extended to the distribution system, which has as yet not been tackled as a major subject in international trade theory. Nakagome (1996) is a useful contribution to such extensions of international trade theory. Therefore, I am suggesting that we need to build general equilibrium models which are more suitable to solving major areas in international trade theory such as the patterns of trade arising out of the distribution system.

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(1) See, for example, Fujita (1989) and Henderson (1985).
(3) See, for example, Ethier (1982) and Tawada (1989).
(4) It is known as the iceberg type cost.
References