

論文の内容の要旨

Essays on Firm Behavior in Trade and Production

(貿易と生産における企業行動に関する研究)

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This dissertation studies firm's behavior from different perspectives. In the first chapter, we introduce inventory management problem into the standard heterogeneous firm trade model, which significantly increases the flexibility of trade costs. In contrast with literature, the marginal trade costs of shipping one additional unit depend on quantity being traded. Despite this flexibility, we derive the gravity equation given a restriction on the parameter space. The model generates a novel prediction regarding the welfare implication of changes of trade costs. To calculate welfare changes, it is also necessary to know how fast the trade costs increase with trade quantity. Using transactions of Chinese exporters, we show that considering a more flexible trade cost structure significantly reduces distance elasticity of variable trade costs inferred from the trade flows. We also found evidence that supports predictions generated from the model.

In the second chapter, we first show a new empirical fact that conditional on number of products each firm export, lower ranking products are more sensitive to distance. This fact is inconsistent with standard models, but can be explained once increasing marginal cost of production is introduced. As a result of this assumption, the market share of productive firms is lower, and more unproductive firms enter. Moderate variable trade costs consistent with observed level of tariffs generate a much larger and non-constant trade elasticity, even when productivity is distributed according to an untruncated Pareto distribution. We find that if expanding production scale by one log point increases marginal cost by 25%, then welfare gains from trade are 2%, compared to 12% under the constant marginal cost assumption.

The third chapter studies productivity dispersion across different project managers inside a firm. Using detailed project management records from the design department in a large Japanese architectural & engineering consultancy firm, we estimate the manager effects on the project profitability. One standard deviation increase in unobserved manager ability increases the profitability by 6 percentage points. Based on interviews with seven project managers, we hypothesize that managers improve team performance by better planning, better communication with both client and project members and better understanding of the client's needs and decision making style, which all help to front-load design work, reduce waiting time, and avoid wasteful redesigning. We provide supporting evidence from the analyses of labor input data, and three-hundred-sixty-degree evaluation records. Especially, we find that the speed of project execution, quality of communication with subordinates, and degree centrality in the internal network could be important mediating factors.

Despite that the topic in the first two chapters are usually classified to the field of international trade, they connect to the third one in the following sense. Coordination costs between trade partners is an important component of the logistics cost that we discuss in the first chapter, while the ability to coordinate among different parties (e.g. clients, government, team members) is also a key to the success of project managers that we study in the third chapter. One of the motivations of the increasing marginal cost of production studied in the second chapter is the limited attention of managers, which is of course the problem facing every project manager. Perhaps not surprisingly, the problems that each firm face are surprisingly similar to those project managers are facing. Therefore, the two parts of the thesis can be thought to study the implications of the same assumption manifested at different levels.