

# 論文の内容の要旨

論文題目：

Policy Analyses Based on Structural Econometric Models  
(構造推定モデルに基づく政策分析)

氏名：北野泰樹

## Abstract

This dissertation empirically assesses the effects of policy interventions based on structural econometric models that have been developed in the area of empirical industrial organization.<sup>1</sup> After the introduction of the policy assessment based on the structural econometric models in Chapter 1, we provide five studies on particular policy interventions.

Chapter 2 studies US motorcycle industry that experienced drastic recovery after the introduction of a safeguard policy. We examine the US safeguards applied to the motorcycle market in the 1980s by simply looking at the effects of the safeguard, by means of a maximum tariff of over 45%, on the equilibrium price and sales. We show that while safeguard tariffs did benefit Harley-Davidson, they only account for a fraction of its increased sales, and hence conclude that the safeguard was unlikely to lead Harley's resuscitation.

In Chapter 3, we deepens the analysis of the case of the US motorcycle safeguard focusing on the effect of technology adoption that was implemented during the periods of the safeguard. What Harley adopted was new engine called Evolution that

---

<sup>1</sup>See Akerberg, Benkard, Berry, and Pakes (2008) for the survey of the structural econometric models developed in the area of Industrial Organization.

was known to bridge technology gap with Japanese rivals. This study reveals that technology adoption explains the sales increase experienced by Harley during the period of protection; in the absence of technology adoption, Harley's sales would not have turned around but continued to decrease. we then model Harley's adoption of the Evolution engine and estimate the adoption cost in order to assess the role of temporary protection in technology adoption. In the model of technology adoption, we take account of the effect of learning-by-doing, a process known to play an important role in the early stages of the introduction of new technology. Simulation results using the estimates of the structural models reveal a strong learning effect and the acceleration of the timing of adoption induced by the protection. However, the results also show that Harley would have successfully implemented the adoption of the new engine across its model range and thereby achieved recovery regardless of the presence of protection. Therefore, the safeguard was not a key factor in the technology adoption. Accordingly, we conclude that the Harley-Davidson motorcycle case does not support the effectiveness of temporary protection as an inducement for technology adoption, but rather shows merely the coincidence of these two events.

While Chapter 2 and 3 focused on the effects of the safeguard on the domestic firms, Chapter 4 focuses on the effects on foreign firms in the case of the US motorcycle safeguard. In particular, I examine the effects of tariff-jumping FDI accounting for the fact that two of the four Japanese motorcycle manufacturers, Honda and Kawasaki, increased their production in U.S. to evade the safeguard tariffs after the imposition of safeguard in U.S. motorcycle market. In the chapter, we implement counter-factual simulations when tariff-jumping FDI does not occur, based on the

structural model of demand and supply. Simulation results show that tariff-jumping FDI reduced the domestic firm's benefit from protection by more than 50%. In addition, the results reveal that the two Japanese motorcycle manufacturers gained from protection for some periods of protection by engaging in FDI activity.

Chapter 5 of this dissertation studies long lasting US–Canada softwood lumber dispute that involved the case of antidumping duties and countervailing duties. In particular, we focus on US antidumping (AD) policy that can generate anticipatory effects on firms subject to AD duties because of a process called “administrative reviews” in which US government agencies determine refund rates based on exporters’ most recent pricing behavior. The purpose of this chapter is to assess the anticipatory effects from importers’ and exporters’ side by examining the US–Canada softwood lumber disputes. Using a demand estimation technique, we find evidence of the importers’ anticipation: importers were less sensitive to tariff rates under the AD duties compared with standard tariffs, which indicates that the importers increased their volume of imports anticipating the future refund. We further show that the importers adjusted their anticipation adaptively, in the sense that the anticipated refund rate evolved according to the most recent revised rate of an AD duty released in the determination of an administrative review. On the other hand, using a pass-through regression, we find evidence of the exporters’ anticipation: the pass-through of the AD duties into export prices (boarder prices) is larger than that of standard tariffs by about 41% after controlling for unobserved demand shocks. The result indicates that the exporters set their prices higher under the AD duties in order to raise the future refund, which in turn increases their future profits through the

evolution of the importers' anticipation.

Chapter 6 of this dissertation studies Mobile number portability(MNP) introduced in Japanese mobile telecommunications market in October 2006. MNP allows mobile users to retain their numbers when changing from one mobile carrier to another and hence it should increase customers' mobility among mobile carriers. Therefore, we assess the effects of the MNP on consumer switching costs. Based on the two-stage nested logit model of mobile carrier choice and MNP usage choice, we show that the MNP reduced the switching costs by 18% and increased the fraction of consumers switched the companies by 2.6%.

## References

Akerberg, Daniel, C. Lanier Benkard, Steven Berry, and Ariel Pakes. 2008. "Econometric tools for analyzing market outcomes." In *Handbook of Econometrics vol. VI*. Amsterdam: North-Holland.