In many complementary goods markets, products are often incompatible across brands and/or technologies. For example, in the men’s shaving market, razors and blades are incompatible by patent protection. Consumers have to use the razors and blades of the same brand. In the market of game consoles and video games, exclusive contracts between game console manufacturers and game developers make new video games played in specific game consoles. Given the growing prevalence of complementary goods, addressing the effect of product incompatibility on market competition and welfare is crucial for antitrust and intellectual property policies. However, the welfare effect of product incompatibility in complementary goods markets is a source of active debate and an open empirical question.

This paper studies the welfare effect of product incompatibility in complementary goods markets. Products are often incompatible across firms and/or technologies. Incompatibility imposes a choice constraint and increases consumers’ costs of switching or upgrading. However, the welfare effect of product incompatibility is a source of active debate and an open empirical question. In this paper, I develop a dynamic consumer demand model and an oligopoly pricing game for complementary goods with incompatibility. The model incorporates market features such as the facts that firms have multiple technologies and that consumers may own multiple products. I estimate the model using the household-level Nielsen consumer panel data in the U.S. men’s shaving market. Counterfactual analyses are conducted to investigate the effect of incompatibility on price competition and consumer welfare. Razors and blades are assumed to be compatible across firms and/or technologies in the counterfactual analyses. Results show that demand for blades expands and the competition between firms increases when razors and blades are compatible. Firms will charge higher prices for both razors and blades since the effect of demand expansion dominates that of increasing competition. Consumer welfare is improved because the benefit consumers derive from expanded choices overweights the cost of higher prices.

This paper studies the effect of product incompatibility on product introductions in complementary goods markets. The key questions to be answered are: How often will firms introduce new products in complementary good markets given incompatibility. And whether product incompatibility speeds up or deters the new product introduction? I develop a dynamic oligopoly game of product introduction for complementary goods given incompatibility. I am working on estimating the dynamic game of product introductions using the Nielsen consumer panel data of shaving products. Estimates are going to be used to quantify the effect of product incompatibility on firms’ product introduction frequency and
consumers’ welfare. Counterfactual market equilibriums where razors and blades are compatible are solved. The incompatibility between razors and blades come from the patent protection. In the counterfactual analysis, I assume there is no patent protection and firms can make the horizontal and vertical compatibility decisions. Results will show whether or not product incompatibility speeds up new product introduction in the men’s shaving market. Given the counterfactual results, I will discuss the policy implications on patent protections (intellectual property). In particular, I will answer the question that whether patent protection spurs innovation.