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**Wednesday, November 2, 2016**

***Where:*** 741 JMHH
***When:*** 12:00 PM to 1:20 PM

# New Features Free of Charge?

# Using Price to Sort Consumers Among Legacy Software Versions

*ABSTRACT*: In many durable good contexts, firms have the opportunity to price discriminate on quality by charging higher prices for the latest functionality. In the software good market, on the other hand, we often do not observe price discrimination on the latest versions, despite new versions being introduced over time. I propose that the software firm's ability to price discriminate on latest functionality is restricted by two factors: (1) the extent to which consumers value the innovation from one version to the next and (2) the extent to which legacy software products are costly for the firm to maintain. To analyze this question, I use a unique dataset on individual consumer subscriptions to a Fortune 500 firm's software products. The firm releases new product versions each year, but allows consumers to adopt the latest functionality for free. Despite this policy, descriptive analysis reveals that consumers frequently choose not to upgrade, electing to renew legacy versions of the product instead. To distinguish between the different factors driving this pattern, I develop a dynamic model of consumer choice of different product versions, renewal opportunities and upgrades. This model allows me to separately account for version usage utility, non-monetary costs of purchasing and upgrading and the heterogeneity therein. The estimates of the model reveal that although the majority of the consumers value the new versions, the high value, price insensitive consumers do not, causing it to be unprofitable for the firm to price latest functionality at a premium. Using the estimates and the structure of the model, I further describe a counterfactual that allows me to quantify how much a firm must innovate in order to be able to price new functionality at a premium when legacy versions are costly. The final counterfactual allows me to calculate the minimum legacy version cost that would cause the firm to shift from releasing distinct intertemporal versions to maintaining one continuously upgraded version of the product.