

Department of Marketing



Research Seminars Series

Pedro Gardete,

NOVA School of Business and Economics (PT)

October 15, 2026 | 12:00 - 13:00 | TC.0.58 TC Hall

Subscription Pricing and Demand Alignment

Abstract: Subscription pricing is widespread across digital and service markets, yet its design poses a basic demand problem. A flat access fee can be optimized from the marginal distribution of consumers' willingness to pay, but usage-based or nonlinear pricing additionally requires knowing how willingness to pay covaries with desired consumption. This paper develops a model of subscription demand that separates these two dimensions and summarizes their dependence through a measure of demand alignment, ρ . The standard single-crossing benchmark is recovered at $\rho=1$, when willingness to pay and desired consumption share the same ordering.

We inform the model using transaction-level data from a European online news publisher and an unannounced reduction in its subscription price. Consumers who subscribe at the lower price subsequently consume substantially more content than consumers who subscribed at the regular price only days earlier, contrary to the prediction of single crossing. Combining the price variation with subsequent usage and renewal behavior identifies demand alignment between desired consumption and willingness to pay at $\rho=-0.51$.

We then use the estimated model to characterize optimal subscription pricing and to study how market outcomes vary with demand alignment. At the estimated demand primitives, the optimal nonlinear menu collapses to a single flat fee. With sufficiently positive demand alignment, quantity-based price discrimination becomes profitable, although the resulting gains are modest and depend on the firm's capacity to supply additional content. Greater alignment can also reduce expected consumer welfare through a composition effect: even as prices fall and quantity allowances increase, changes in the composition of consumer types can lower aggregate welfare, in the spirit of Simpson's paradox. Thus, welfare across subscription markets cannot generally be ranked from firms' pricing schedules alone, even when one schedule offers lower prices for higher quantity allowances throughout.

