Seminario de microeconomía aplicada 29: Economies of Density in E-commerce: A Study of Amazon's Fulfillment Center Network

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Organizador: Banco de la República
Lugar actualizado: Auditorio AJ Posada, Universidad del Valle (Calle 13 # 100-00), Cali
Hora: 10:30 a. m. **Abstract:** We examine the economies of density associated with the expansion of Amazon's distribution network from 2006 to 2018. We demonstrate that, in placing a fulllment center in a new state, Amazon faces a trade-o between the revenue implications of exposing local customers to sales tax on their purchases and the cost savings from reducing the shipping distance to those customers. Using detailed data on online transactions, we estimate a model of demand for retail goods and show that consumers' online shopping is sensitive to sales taxes. We then use the demand estimates and the spatial distribution of consumers relative to Amazon's fulllment centers to predict revenues and shipping distances under the observed fulllment center roll-out and under counterfactual roll-outs over this time period. Using a moment inequalities approach, we infer the cost savings from being closer to customers that render the observed network roll-out optimal. We nd that Amazon saves between $0.17 and $0.47 for every 100 mile reduction in the distance of shipping goods worth $30. In the context of its distribution network expansion, this estimate implies that Amazon has reduced its total shipping cost by over 50% and increased its prot margin by between 5 and 14% since 2006. Separately, we demonstrate that prices on Amazon have fallen by approximately 40% over the same period, suggesting that a signicant share of the cost savings have been passed on to consumers. Economies of Density in E-Commerce: A Study of Amazon's Fulllment Center Network

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