



The University of Chicago  
Department of Statistics

MASTER'S THESIS PRESENTATION

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**Retail Inventory Management of Two Horizontally  
Differentiated Products with Demand Substitution and  
a Single Supplier**

**FRIDAY, May 4, 2012, at 11:00 AM**  
110 Eckhart Hall, 5734 S. University Avenue

**ABSTRACT**

In this thesis, we examine the improvement of a new inventory control policy which takes into account the stochastic demand substitution between two horizontally differentiated products and sharing of procurement cost because of an identical supplier, relative to the traditional individual-product inventory control policy. The previous literature about the inventory management with demand substitution usually assumes a stationary Poisson demand, fixed procurement cycle for perishable goods, and restricted substitution patterns. We model the demand pattern as stable structural Gaussian VAR, allow dynamic procurement cycle, devise a new inventory control policy based on the above assumptions, and finally numerically show the advantage of the new policy.

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