"Market Maker Inventories and Stock Prices"

Abstract:
This paper examines daily inventory/asset price dynamics using 11 years of NYSE specialist data. The unique length and breadth of our sample enables the first longer horizon testing of market making inventory models—e.g., Grossman and Miller (1988). We confirm such models’ predictions that specialists’ positions are negatively correlated with past price changes and positively correlated with subsequent changes. A portfolio that is long stocks with the highest inventory positions and short stocks with the lowest inventory positions has returns of 0.10% and 0.33% over the following 1 and 5 days, respectively. These findings empirically validate the causal mechanism — liquidity supplier inventory — that underlies models linking liquidity provision and asset prices. Inventories complement past returns when predicting return reversals. A portfolio long high-inventory/low-return stocks and short low-inventory/high-return stocks yields 1.05% over the following 5 days. Order imbalances calculated from signing trades relative to quotes also predict reversals and are complementary to inventories and past returns. Finally, specialist inventories can be used to predict return continuations over a one-day horizon.