Competing with Inventory in Dealership Markets

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Summary

Very innovative model:

- Dealer enjoys an **inventory benefit** of holding a bond in anticipation of filling a buyer's order
- Inventory benefit decreases with asset substitutability
- A measure of (inventory benefit - inventory cost) $\approx$ bid-ask spread of riskless principle trades - spread of principle trades

Very surprising empirical facts + clever execution:

- Realized bid-ask spread is 8.5 bps lower for principle trades than for riskless-principle trades!
- Difference even greater for bonds with more stringent/complex covenants!

Why are the Empirical Facts Surprising?

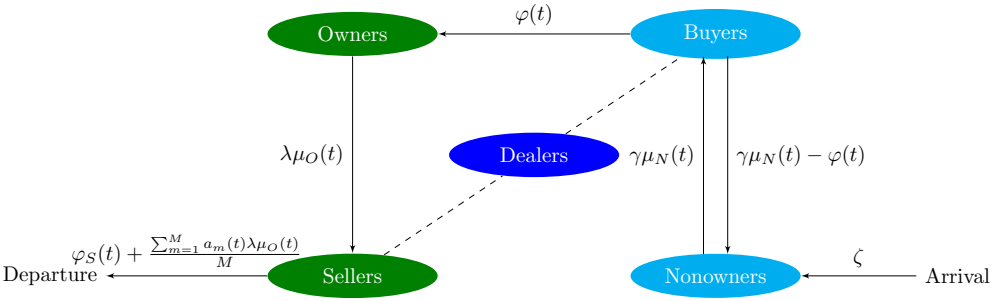
Both empirical facts are surprising, because:

- Inventory cost $\Longrightarrow$ wider spread for principle trades
- More complex bonds less liquid $\Longrightarrow$ larger inventory cost $\Longrightarrow$ larger spread
- Customer liquidity provision (Choi and Huh 2016) $\Longrightarrow$ wider spread for principle trades
- Adverse selection $\Longrightarrow$ wider spread for principle trades
- Conveneince yield? Lending fee $<$ 1bps. How about using investment grade as collateral?

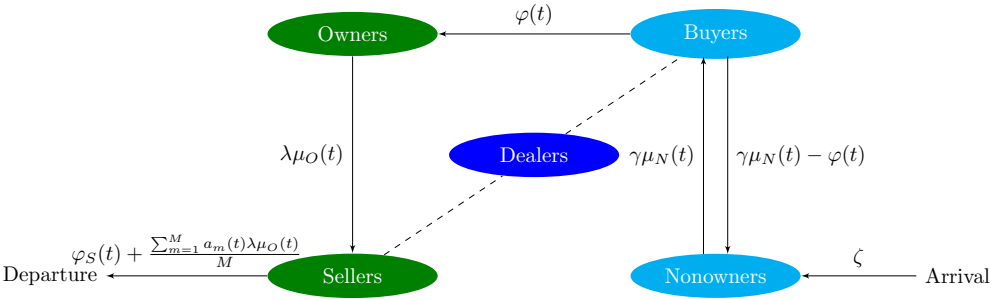
Coupon payment?

- Dealer receives coupon by holding the bond
- Bond price drops on coupon date by coupon amount
- If dealer bought before coupon date, sold after coupon date, price difference indicates a loss
- Coupon rate $= 4\%$/year $>$ 20 bps/20 days (spread difference is 8.4 bps/20days)
- More complex bonds pay higher coupon?
- Page 25: *These prices are dirty prices, including interest accruals and coupon payments.*

Theory

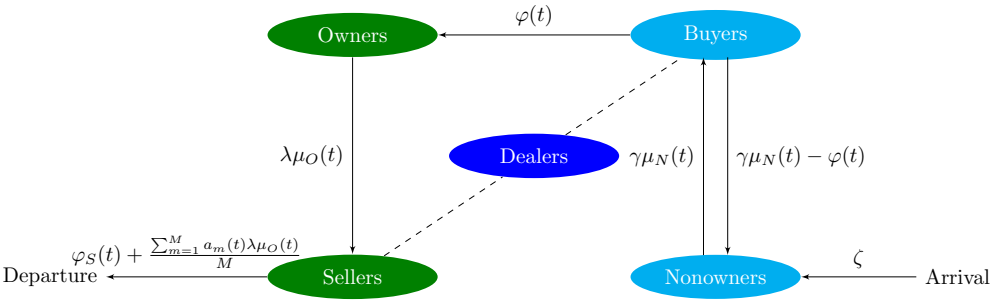

Owners
$\varphi(t)$
Buyers
$\lambda\mu_O(t)$
Dealers
$\gamma\mu_N(t)$
$\gamma\mu_N(t) - \varphi(t)$
$\varphi_S(t) + \frac{\sum_{m=1}^{M} a_m(t)\lambda\mu_O(t)}{M}$
Departure
Sellers
Nonowners
ζ
Arrival

Theory



- Inventory benefit: make sure that the sell doesn't go somewhere else

Theory



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- Page 19: *From the dealer's perspective, offering the principal trade at time 0 eliminates this intertemporal risk of losing the seller's business to other dealers, at the expense of a lower profit than offering the riskless principal trade.*

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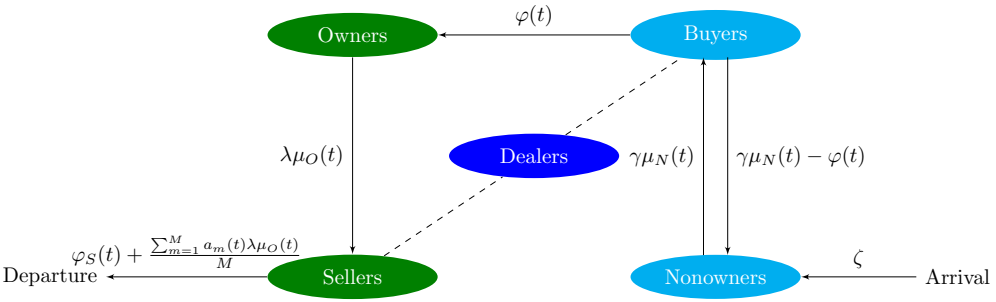

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- Page 19: *From the dealer's perspective, offering the principal trade at time 0 eliminates this intertemporal risk of losing the seller's business to other dealers, at the expense of a lower profit than offering the riskless principal trade.*
- Page 10: *a dealer at random is the fastest at reaching a seller. Only this dealer can buy from the seller and resell to the buyer for a riskless principal trade.*

Welfare Implication?

- Each dealer holding inventory imposes a negative externality on other dealers
- Dealers holding inventory is socially costly if $c > s$
- Social optimal: dealers all hold 0 inventory, act exclusively as matchmakers
- If $$c = s + \gamma \mu_N g'(\mu^*; \mu^*)(P_B - P_S), \tag{11}$$
  Equilibrium: Dealers hold 1 inventory, act exclusively as marketmakers
- In general, always too much inventory?

Minor Suggestions

- Complete the loop
- Page 9: *In the latter case, the buyer loses her preferences for any asset and becomes a nonowner again.*
- Information chasing channel

Conclusion

- Innovative, elegant model unveiling a novel inventory benefit channel in liquidity provision
- Though-provoking empirical facts
- Suggestions for tighten the theory and empirics up