

Market Liquidity and Inventory Cycles

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The inventory stock is on average 13% of GDP

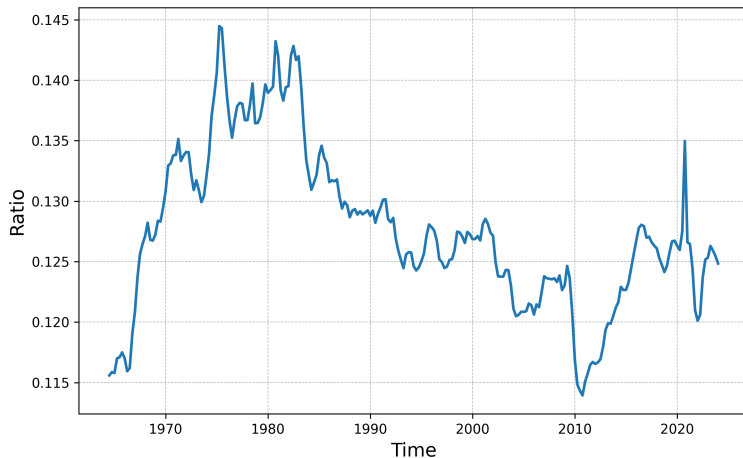


Figure: U.S. real non-farm private inventory as share of real GDP

Business cycles are, to a surprisingly large degree, inventory cycles.

– Alan Blinder, 1990

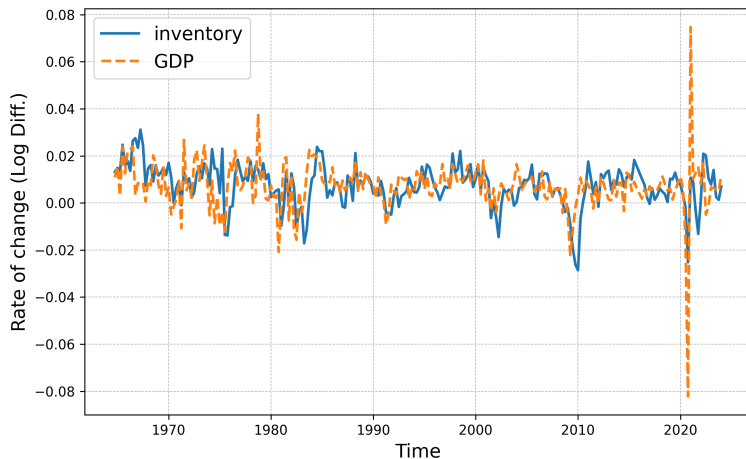


Figure: U.S. Inventory-GDP comovement

This paper

Rationalize inventory holding

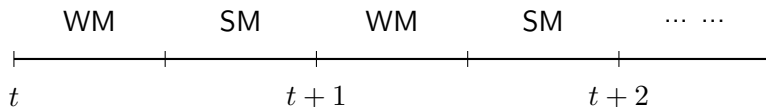
- Endogenous search frictions w/ many-to-one match
- Heterogeneous-agent DSGE
- Aggregate overstock = 0.2% GDP | Welfare cost PV \approx 7% U.S. national debt

Explain 3 empirical regularities

- Inventory is pro-cyclical
- Inventory-sales (I/S) ratio is counter-cyclical
- Markup is pro-cyclical

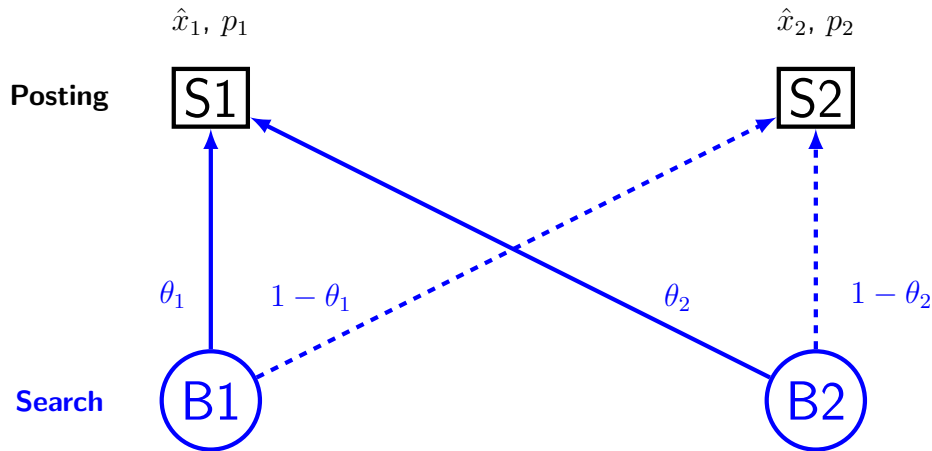
Environment

- Discrete time, infinite periods
- 2 subperiods in each period: Walrasian market | Search market



- 3 types of agents
 - ◇ A representative firm: track capital & labor
 - ◇ Measure 1 of continuum sellers
 - ◇ Measure μ of continuum buyers

SM game (Burdett, Shi & Wright 2001)



- Many-to-one matches | Endogenous search friction & stochastic process

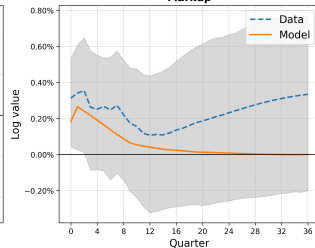
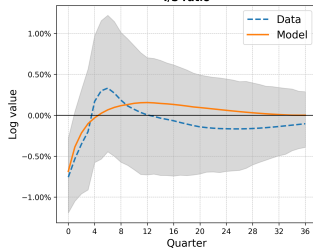
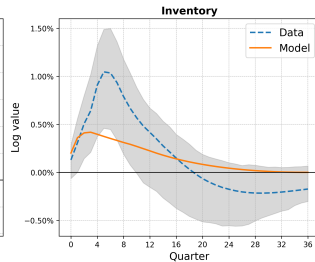
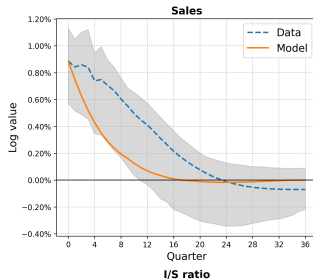
Impulse responses to sales shock

Structural VAR

- (Sales, Inventory, Markup)
- Log value
- 8 lags
- Constant + Trend
- Cholesky decomposition

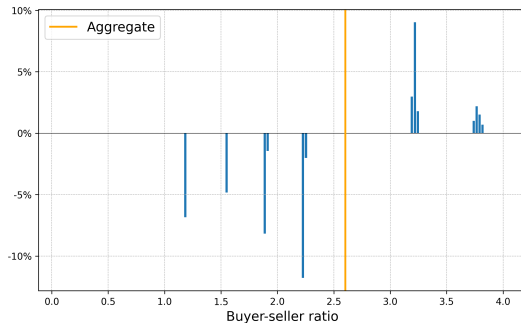
Model

- Preference shock
- One time surprise
- After sellers post
- Before buyers search



Efficiency

Figure: Over/under-stock heterogeneity



- Aggregate overstock by 0.2% of GDP
- Annual welfare cost = 0.27% of GDP | PV \approx 7% of U.S. national debt