Demand Elasticities, Nominal Rigidities and Asset Prices
Nuno Clara (London Business School)

What is the interaction between demand elasticity, nominal rigidities and asset prices?
- Most of the new-Keynesian literature assumes that firms face the same demand elasticity
- Nominal rigidities create operational leverage in firms and therefore create a role for demand elasticity to matter for firm fundamentals and cross-sectional asset pricing

Key result: Firms with higher demand elasticities have lower markups and earn an annual return premium of 6.2% compared to firms with more inelastic demands

Contribution

- Develop a new-Keynesian model with heterogeneous firms in terms of nominal rigidities and demand elasticity
- High-frequency micro-level product data to estimate demand elasticities
- Take the model to the data

The model

- **Rep. household:** Power utility / habits
- **Firms**: Two sectors heterogeneous in demand elasticity. Prices are sticky
- **Calibration**: Standard parameters. No correlation between degree of nominal rigidities and elasticity
- **Main implication**: Firms with higher elasticity are riskier and earn an annual return premium of 7% over firms with lower elasticity

Data and Identification Strategy

Panel A - Fitbit Flex 2, Lavender - 12 hour window

Panel B - Fitbit Flex 2, Lavender - 5 day window
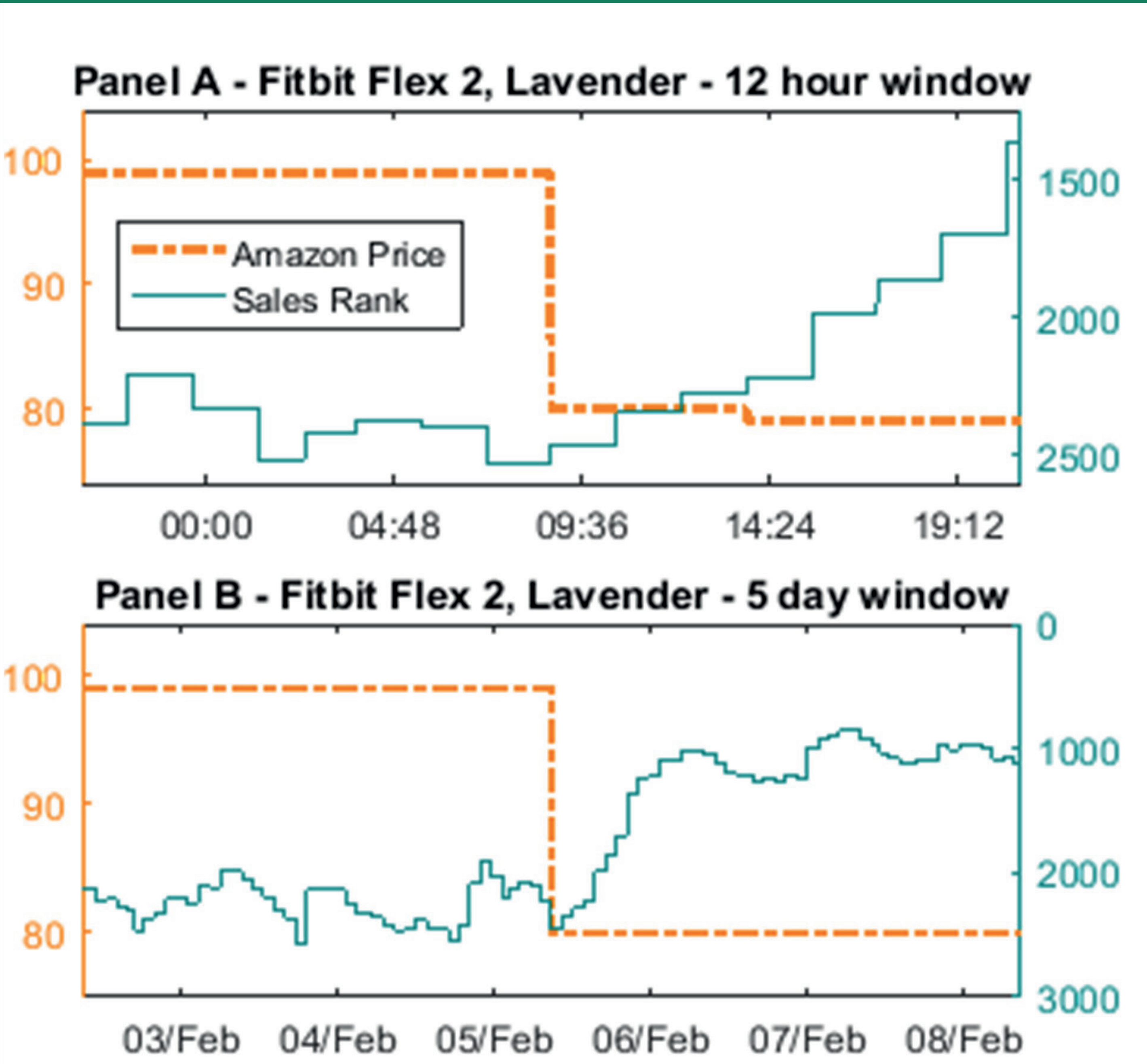
- **Data:** Keepa database that tracks over 1M products sold on Amazon.
- Price and sales rank data (good proxy for quantity!) . Over 280.000 products sold by 250 US public firms
- **Identification**: High-frequency. Measure quantity moves in a narrow window around a price change. Identification fails if agg. demand moves or if firms are fast to react to competitors price changes. Remove days when demand is likely to change and show that competitors are not moving prices.
- **Robustness:** Use Hausman (1994) instruments to trace demand.

Key results

- Consistent with the model firms facing higher demand elasticities earn higher excess returns;
- Results are robust to industry controls, hold out-of-sample and with IV estimation of elasticity;
- Puzzles: (i) degree of price stickiness is uncorrelated with elasticity of demand; (ii) price synchronization across competitor products is to low

	Low Elasticity	2	3	4	High Elasticity	H-L
			Average Annual Excess Returns			
			Panel A: Equally Weighted Returns			
$R_i - R_f$	0.129	0.156	0.168	0.180	0.191	0.062
t-stat	[2.01]***	[2.57]***	[2.48]***	[2.85]***	[2.71]***	[2.15]***
			Panel B: Value-Weighted Returns			
$R_i - R_f$	0.137	0.142	0.160	0.153	0.189	0.053
t-stat	[1.97]**	[2.92]***	[2.76]***	[2.74]***	[2.92]***	[1.99]**