

More Amazon Effects: Online Competition and Pricing Behaviors

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A Appendix

A.A Zip-Codes selected for Uniform Pricing Data

Using BLS and Census data, I selected the zip-codes in each state with the highest and lowest unemployment rates for February 2018 (the last non-preliminary month of data available at the time the data was merged.) The unemployment data from BLS is available at the county level, so I merged it with a zipcode-county correspondence table from Census. A single county may have multiple zip codes, and a zip code may expand across many counties. To simplify, I only kept zip-codes that fall fully within a county and then selected the zip-code with the largest population in every county. Finally, I selected the zip-codes with the highest and lowest unemployment rate in each state. I added zipcode 02138 (my location) and 98101 (Amazon's Seattle headquarters).

A.B Tables

Table A1: Behavior of Posted and Regular Prices in Large US Retailers

	Period Averages		
	2008-2010	2011-2013	2014-2017
Panel A: Posted Prices			
Frequency of Price Changes (%)	21.28	28.02	31.72
Implied Duration (months)	4.70	3.57	3.15
Frequency of Price Increases	9.93	13.18	14.72
Frequency of Price Decreases	11.42	14.84	17.04
Absolute Size of Price Changes (%)	18.65	17.84	15.52
Size of Price Increases	21.45	19.29	16.69
Size of Price Decreases	-17.95	-15.3	-14.48
Share of Price Changes under 1pc	5.62	4.94	7.57
Kurtosis of Price Changes	4.13	5.17	5.3
Panel B: Regular Prices			
Frequency of Price Changes (%)	15.43	22.39	27.39
Implied Duration (months)	6.48	4.47	3.65
Frequency of Price Increases (%)	6.89	10.27	12.49
Frequency of Price Decreases (%)	8.94	12.12	14.96
Absolute Size of Price Changes (%)	17.45	16.24	15.02
Size of Price Increases (%)	18.3	17.09	15.42
Size of Price Decreases (%)	-16.79	-14.71	-14.02
Share of Price Changes under 1pc	6.59	5.23	8.01
Kurtosis of Price Changes	4.12	4.87	5.47
Sales as Share of Price Changes (%)	4.02	3.98	3.29

Table A2: Walmart Pass-through Using Alternative Estimators

	Full Sample	Found in Amazon	
		No	Yes
Panel A: Gas Prices (1 quarter)			
OLS	0.32 (0.02)	0.30 (0.02)	0.34 (0.03)
Fixed Effects	0.22 (0.02)	0.19 (0.02)	0.28 (0.03)
Difference GMM	0.14 (0.03)	0.06 (0.04)	0.35 (0.05)
System GMM	0.10 (0.02)	0.06 (0.03)	0.23 (0.04)
Panel B: Exchange Rates (2 quarters)			
OLS	0.47 (0.03)	0.44 (0.03)	0.52 (0.04)
Fixed Effects	0.32 (0.03)	0.26 (0.04)	0.44 (0.05)
Difference GMM	0.38 (0.03)	0.46 (0.05)	0.47 (0.05)
System GMM	0.69 (0.03)	0.66 (0.04)	0.69 (0.05)

Notes: Standard errors in parenthesis. Fixed effects at the individual product and COICOP 3-digit category levels.

A.C Figures

Figure A1: Monthly Frequency of Price Changes with Different Sales Filters

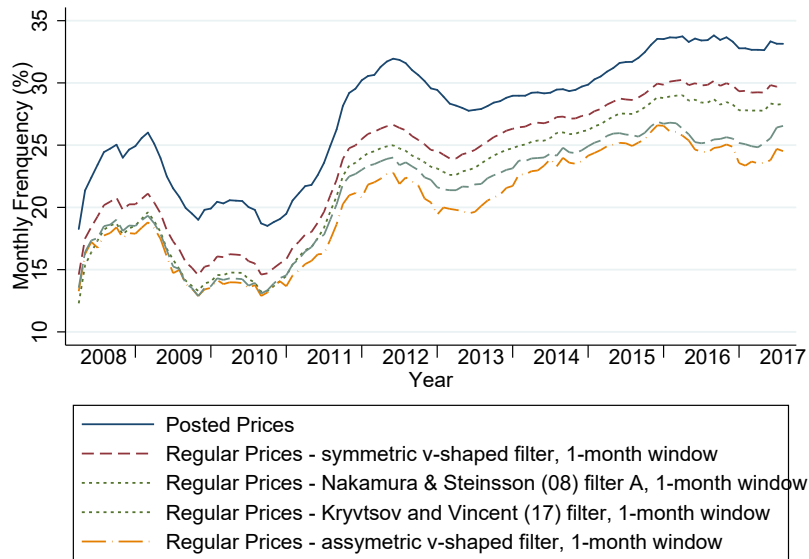


Figure A2: Monthly Frequency of Price Changes by COICOP Sector

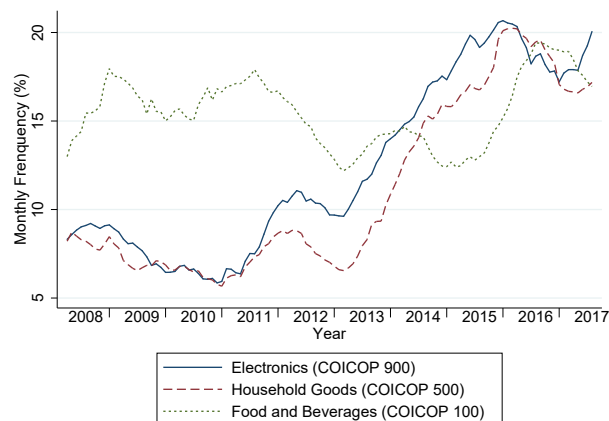


Figure A3: Implied Duration of Price Changes

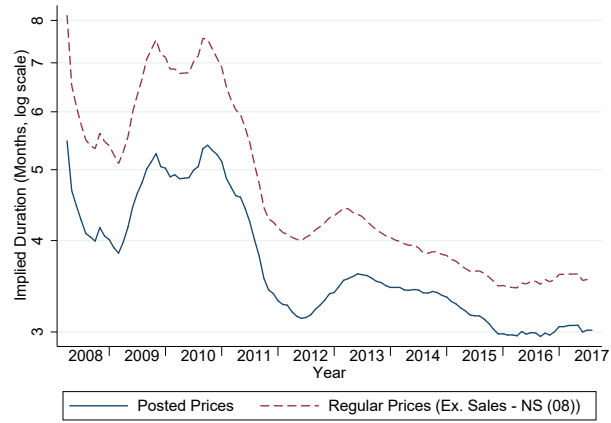


Figure A4: Mean Absolute Size of Price Changes

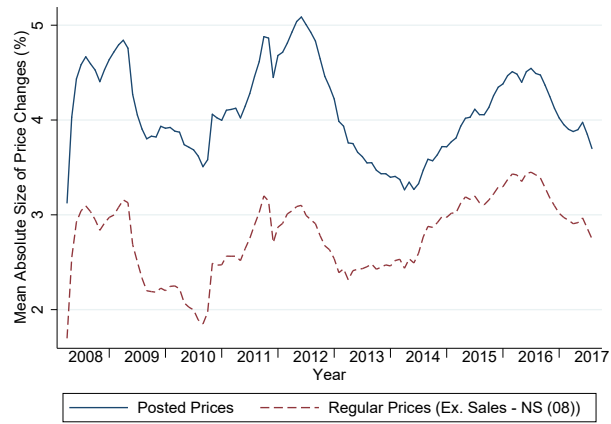


Figure A5: Average Monthly Frequency by Retailer and Sector

