

Online appendix (not for publication)

In Table 1 we verify whether the results of our analysis hold for different definitions of algorithmic pricing. In the main part of the paper we have flagged a seller algorithmic if prices of the products changed sufficiently often. As baseline, we assumed that price changes that are more than *two* standard deviations above the normalized distribution within the product category are due to algorithmic pricing. In this section, we examine robustness by applying both one standard deviation as alternative cut-off as well as a fix number of 20 price changes during Crawl 1 (columns 1 and 2 of Table 1). This cutoff is motivated by our visual inspection of the empirical distribution of price changes.

As a further refinement, we add price correlations with competing sellers to the number of price changes, as discussed in section 5.2 ("Identifying Algorithmic Sellers"). Doing so results in labeling a seller as algorithmic if prices change often *and* closely follow either the lowest price (or the second-lowest price if they offer the lowest price themselves) or Bol's price (columns 3 and 4 of Table 1).

As shown in Table 1, the results from our baseline specification holds for most of these different specifications. Coefficients decrease by 1 to 2 percentage points as we choose a more conservative measure of algorithmic pricing.

	(1)	(2)	(3)	(4)
(1) Monopolies:				
N.Algo=1	-0.009 (-0.12)	0.223 (1.33)	0.307* (1.88)	-0.199*** (-2.88)
N	166352	166352	166352	166352
adj. R2	1.00	1.00	1.00	1.00
adj. R2 (within)	0.03	0.05	0.06	0.03
(2) Duopolies:				
N.Algo=1	0.014 (1.01)	0.057 (1.38)	0.030 (0.74)	0.204 (1.48)
N.Algo=2	0.078** (2.54)			
N	156319	156319	156319	156319
adj. R2	1.00	1.00	1.00	1.00
adj. R2 (within)	0.06	0.06	0.06	0.07
(3) 3-5 sellers:				
N.Algo=1	-0.003 (-0.80)	0.002 (0.54)	0.006 (0.69)	0.011 (0.77)
N.Algo=2	-0.008 (-0.51)	0.027* (1.83)	-0.036*** (-5.56)	0.006 (0.40)
N	316877	316877	316877	316877
adj. R2	1.00	1.00	1.00	1.00
adj. R2 (within)	0.17	0.17	0.17	0.17
(2) 6-8 sellers:				
N.Algo=1	-0.008 (-1.53)	0.002 (0.73)	-0.001 (-0.26)	-0.015 (-0.95)
N.Algo=2	-0.008 (-0.92)	0.007 (0.86)	-0.010 (-3.85)	-0.016 (-1.00)
N	98387	98387	98387	98387
adj. R2	1.00	1.00	1.00	1.00
adj. R2 (within)	0.1	0.1	0.1	0.1
ProductxDate FE	Y	Y	Y	Y
Algo criterion	1 SD	20 pr. changes	corr. min. pr.	corr. Bol pr.

t statistics in parentheses. Dependent Variable: Log Bbox Price. Product-clustered SE.

Note: For the sake of brevity, other coefficients have been omitted from this table.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 1: Robustness - Alternative Criteria for Algorithmic Sellers (Crawl 1)