# Information Sharing vs. Collusive Coordination: A Bayes Correlated Equilibrium Approach to Algorithmic Pricing in US Multifamily Rentals*

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**Abstract**

We investigate whether rent increases facilitated by RealPage's algorithmic pricing software reflect benign information aggregation ("information effect") or anticompetitive coordination ("collusion effect"). While recent antitrust actions equate data pooling with price-fixing, economic theory suggests that information sharing can alter prices in non-collusive Bayesian Nash equilibria. We bridge this gap using a structural model robust to the unobserved information structure. Adopting Bayes Correlated Equilibrium (BCE) and a "Mean-Preserving Contraction (MPC)" constraint, we identify the set of marginal costs rationalizable under *any* static information environment. Applied to US multifamily housing data with demand estimates from Calder-Wang and Kim (2024), our approach distinguishes between the economic "gray zone" of sharpened information and price levels that necessitate dynamic punishment strategies.

**Keywords:** Algorithmic collusion; algorithmic pricing; antitrust; Bayes correlated equilibrium; information sharing; multifamily housing; set identification

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