Upward pricing pressure as a predictor of merger price effects

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\section*{A B S T R A C T}

We use Monte Carlo experiments to evaluate whether “upward pricing pressure” (UPP) accurately predicts the price effects of mergers, motivated by the observation that UPP is a restricted form of the first order approximation derived in Jaffe and Weyl (2013). Results indicate that UPP is quite accurate with standard log-concave demand systems, but understates price effects if demand exhibits greater convexity. Prediction error does not systematically exceed that of misspecified simulation models, nor is it much greater than that of correctly-specified models simulated with imprecise demand elasticities. The results also support that UPP provides accurate screens for anticompetitive mergers.

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1. Introduction

In a number of recent antitrust enforcement actions, the U.S. Department of Justice (DOJ) and the Federal Trade Commission (FTC) have alleged that mergers between producers of competing differentiated products would adversely affect unilateral pricing incentives. This follows a decades-long trend that has both spurred on and been informed by academic research on how mergers affect prices (e.g., Davidson and Deneckere, 1985; Berry and Pakes, 1993; Hausman et al., 1994; Werden and Froeb, 1994; Nevo, 2000; Jaffe and Weyl, 2013; Carlton and Keating, 2015). Continuing this evolution, the DOJ and the FTC updated its Horizontal Merger Guidelines in 2010, in part motivated by a desire to better align the document with economic theory and antitrust practice as they relate to markets with differentiated products (Shapiro, 2010).

One point of emphasis in the 2010 Horizontal Merger Guidelines is that mergers between competitors create opportunity costs, which in turn place upward pricing pressure (or “UPP”) on the combining firms. This principle is easily derived from basic economic models, and the magnitude of the opportunity costs often can be quantified with information from only the merging parties. This combination of theoretical and practical simplicity make UPP a useful diagnostic tool. Referring to UPP as the value of diverted sales, the Guidelines state that “[t]he Agencies rely more on the value of diverted sales than on the level of the HHI for diagnosing unilateral price effects in markets with differentiated products.” The FTC has employed UPP calculations to support arguments in court (FTC v. Sysco Corporation, et al.) and to justify enforcement decisions (Family Dollar/Dollar Tree).

Although UPP has a direct relationship to firms’ pricing incentives, antitrust economists have been wary about using it as a prediction of price effects. UPP does not incorporate how the pass-through of costs to prices depends on the higher-order properties of the underlying demand system. Nor does it account for the possibility that non-merging competitors may change prices as the market shifts to a new equilibrium. Two of the principal authors of the 2010 Horizontal Merger Guidelines, Joseph Farrell and Carl Shapiro, emphasize in their academic work that “UPP does not predict post-merger prices, but only predicts the sign of changes in price” (Farrell and Shapiro, 2010). Furthermore, Jaffe and Weyl (2013) show that UPP must be scaled by an appropriate

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3 See Section 6.1.
5 See also Shapiro (2010), who writes that:

The value of diverted sales, taken alone, does not purport to quantify the magnitude of any post-merger price increase.... The value of diverted sales is a measure of the extra (opportunity) cost the merged firm bears in selling units of Product 1. Higher costs give the merged firm an incentive to raise the price of Product 1. But further analysis is needed to determine how that cost increase translated into a price increase.
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