

# Report for IJIO: Beyond “Horizontal” and “Vertical” The Welfare Effects of Complex Integration

This paper extends a recent RAND paper *Simulating mergers in a vertical supply chain with bargaining* by Sheu and Taragin (2021). That paper considered three kinds of mergers: Downstream Mergers, Upstream Mergers, and Vertical Mergers. This paper adds “integrated mergers” or mergers between firms that already have an upstream and downstream presence. On one hand this strikes me as an interesting and worthwhile extension, on the other hand the structure of this paper and the overall approach look extremely similar to Sheu and Taragin (2021).

The paper consists of three parts: (a) the first goes through the main tradeoffs (RRC, EDM, etc.) in a standard model of upstream and downstream firms with Nash-in-Nash bargaining, this reads a bit like a PhD lecture but I think that is fine; (b) the numerical example simulates million(s) of mergers under different numbers of firms and different bargaining parameters with plain logit demands and characterizes the overall range of welfare impacts as well as how changes in consumer surplus are correlated with the structure of the market: mostly that when upstream firms have lots of bargaining power, the scope of EDM is larger meaning that these kinds of mergers are the most likely to be consumer welfare enhancing, while anticompetitve forces tend to dominate other mergers; (c) a calibrated empiricil example based on a recent DOJ case for an “integrated merger” involving waste “haulers” (downstream) and “disposal facilities” (upstream).

## Comments

1. Let’s suppose hypothetically I am well versed in the Sheu and Taragin (2021) paper. I think it is absolutely crucial to make clear to the reader what the marginal contribution is here. Is it just the consideration of the “integrated case”? Are we allowing for additional forces in the vertical bargaining setup that were not at play in the other cases? I am honestly a bit overwhelmed by the amount of potential cases that are being considered, but also unclear what conclusion I am supposed to draw from the overall exercise. This seems like a lot of work, but we don’t spend as much time analyzing the patterns that are generated as we do setting up the exercise. Given the amount of effort into constructing the markets and simulating the mergers, I feel like we should learn more from the exercise.
2. One of the aspects of the Sheu and Taragin (2021) paper that I liked is that it provides more intuition for why we get the results that we get, and what parameters the findings are sensitive to. We get some of that here, though number of firms tends not to matter, and the bargaining weight works in all four cases exactly like one would expect (higher weight on upstream firms pre-merger expands the potential for EDM), and it works similarly across all four cases (three of which were in the previous paper). Is there some other parameter we can vary that explains the variation in the predicted merger effects in an interesting way? Otherwise this looks too much like the prior paper and limits the novelty for me.
3. My main suggestion might be to try and use the model to quantify each of the individual labeled effects from the theory section and separate them out as best we can. This might be somewhat involved because in equilibrium everything adjusts but it should be possible to switch off certain terms and see how much they matter quantitatively (at least at the chosen parameter values). Do things like “indirect EDM effects” or retail/wholesale recapture leverage effects ever matter? What are the parameters that they are sensitive to. I think this would lead to a paper that would give the reader better intuition for how these models work and which forces are likely to matter.

4. Another obvious question is that we select the sample of mergers that merging parties would want to propose, and also that would satisfy some HMT screen and increase in concentration. A fair question to ask is what the welfare effects of the simulated mergers that are dropped from the sample look like. Are current screens adequate? Are un-profitable mergers necessarily good for consumers (I am prone to believe “empire building” is a reasonable explanation of value-destroying mergers and profitability need not be a pre-requisite).
5. I don't get much out of the empirical example. I understand it is calibrated with limited data, but after reading Appendix B, I am not sure I could adequately explain what the procedure actually was. I guess we match shares from Table 2 to get the logit intercepts and the markups to get the price coefficient? It seems like (FN 17) we're using pre-merger price-cost margins to pin down the bargaining parameters. It might be nice to actually write out the set of moments/estimating equations that are being used. My takeaway from the simulation exercise was that the bargaining weights are really going to matter for the merger welfare, and I think that understanding what in the data tells us about those bargaining weight is the most important aspect here.
6. I might be curious to know (from public info) how the merging parties actually attempted to rationalize the merger – were hypothesized cost savings all about EDM or were there some kind of claimed operational efficiencies as well?