

# Comment on Common Ownership and Merger Guidelines

Christopher Conlon

*Department of Economics, NYU Stern School of Business and NBER*  
*cconlon@stern.nyu.edu*

February 2022

## Executive Summary

Common ownership is primarily understood in economics as a *unilateral effects* theory of harm, whereby the owners of horizontal product market competitors want to lessen competition (raise price, lower output, lessen innovation etc.) in ways that harm competitors. The hypothesis is that owners internalize the impact their strategies have on their *portfolios* because they own non-negligible stakes in product market rivals. This theory is long established in the economics literature (Rotemberg, 1984; Bresnahan and Salop, 1986; O’Brien and Salop, 2000) but hotly contested by the asset management industry (Novick, 2019; Collins, 2022) which stands to lose if antitrust policy were to create liability for diversified funds.

Common ownership levels are high today. The empirical evidence as to whether these high levels of common ownership translate into less competitive outcomes in product markets is mixed. However, the literature is growing and robust findings may be generated in future years. It would be prudent to include a discussion of common ownership in the new merger guidelines in a way that allows enforcement to be guided by this future evidence, and be clear about distinctions between changes in ownership in the financial market and changes in ownership (ie: mergers) in the product market.

There is one possible trap that the new merger guidelines should avoid. Naively, incorporating common ownership into merger analysis in the product market may make markets appear less competitive pre-merger, but also limit the extent to which the merger can further reduce competition. This would weaken the ability of the agencies to enforce horizontal mergers in product markets relative to the status quo.

## Background

Section 12(h) of the Request for Information on Merger Enforcement poses the following question:

Common ownership. Is the guidelines’ approach to common ownership and horizontal stockholding adequate? If not, what changes should be made?

It is worth noting that Sections 7 and 8 of the Clayton Act place limitations on the ability of one corporation to acquire the stock of another, and on ‘interlocking directorates and officers’ among competing firms.

It is important to provide clear definitions of what one means by “common ownership”. The relevant question today is not whether a holding company can acquire 50% or more of the shares in horizontal

competitors, where it seems the Clayton Act would apply. Instead, the question is whether there are antitrust concerns when large institutional investors own significant but minority positions (often 4-10%) in several large publicly traded firms. We reproduce a figure from Backus et al. (2021b) documenting the rise in ownership of S&P 500 firms by the three largest index fund and exchange traded fund managers (BlackRock, Vanguard, and State Street) in Figure 1.

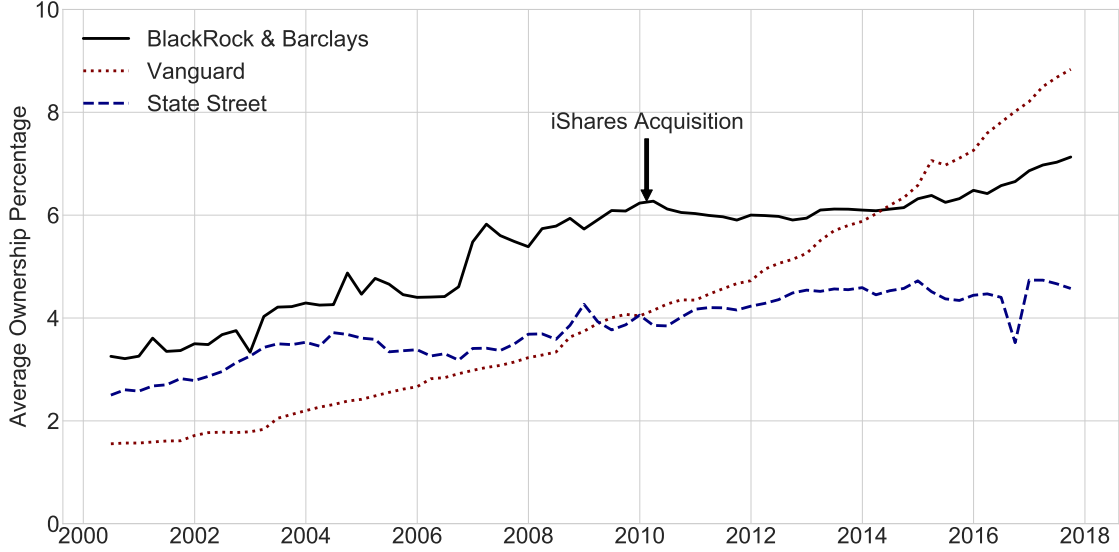


Figure 1: Average Ownership of S&P 500 Components by Large Investors

Source: Backus et al. (2021b).

Note: Prior to 2010 iShares was owned by Barclays Global Investors, and later sold to BlackRock. For both firms, the iShares business accounts for the overwhelming majority of ownership of S&P constituents.

The idea behind the “common ownership hypothesis” is that if managers of firms maximize the *portfolio value* of their investors, and these investors are broadly diversified (or at least own significant stakes in competitors), this may lead managers to avoid engaging in actions that are “business stealing”. At the heart of quantifying this incentive is the notion of a *profit weight*  $\kappa_{fg}$ , or how much the manager of firm  $f$  values the profits of firm  $g$ . In a non-cooperative environment we would expect  $\kappa_{fg} = 0$  (managers care only about their own profits and not those of rivals). Because a merger causes two firms to jointly optimize their profits, the merger would set  $\kappa_{fg} = 1$ . This idea has long been at the core of prospective analysis of mergers (merger simulation, Upward Pricing Pressure,  $\Delta HHI$ , etc.).

The “common ownership hypothesis” suggests that overlapping investor positions effect a “partial merger” whereby  $\kappa_{fg}$  takes on some intermediate value between  $(0, 1)$ . Here a value of  $\kappa_{fg} = 0.7$  would mean that firm  $f$  is willing to trade \$1 of rival profits for \$0.70 of their own profits. It is worth mentioning that how one constructs  $\kappa_{fg}$  from data is open to some debate. In Backus et al. (2020), we provide a framework that unites much of the past work on common ownership (including modified Herfindahl indices). The key formula is given by:

$$\kappa_{fg} = \frac{\sum_s \gamma_{fs} \beta_{gs}}{\sum_s \gamma_{fs} \beta_{fs}}. \quad (1)$$

Here the idea is that  $\beta_{fs}$  is the fraction of firm  $f$  owned by shareholder  $s$ , and  $\gamma_{fs}$  is how much the manager

of firm  $f$  cares about the portfolio value of shareholder  $s$ . Most empirical work on common ownership (See Azar et al. (2018, 2019); Backus et al. (2021a)) assumes *proportional control* so that  $\gamma_{fs} = \beta_{fs}$  or “one-share, one-vote”.<sup>1</sup> This assumption is more about convenience than any deep insight into how corporate governance works, but it enables one to analyze investor holdings from SEC 13F disclosures and construct profit weights.

In Backus et al. (2021b) we construct the set of profit weights for pairs of S&P 500 constituents and show that the average profit weight has grown from  $\kappa = 0.2$  in 1980 to around  $\kappa = 0.7$  today. We illustrate this in Figure 2 below. This would suggest both a high degree of common ownership in the economy, and (if the “common ownership hypothesis” is true) that large publicly traded firms already internalize the consequences of their actions on other firms. What Backus et al. (2021b) also demonstrate is that much of the rise in profit weights over time is not simply due to the rise of large asset managers in Figure 1 but rather that all asset managers are holding portfolios that look more similar to each other (a phenomenon described in the finance literature as “closet indexing”). This would mean that even relatively significant antitrust interventions such as breaking apart BlackRock, would have only modest effects on the overall level of common ownership decreasing it from  $\kappa = 0.7$  to  $\kappa = 0.6$  on average.<sup>2</sup>

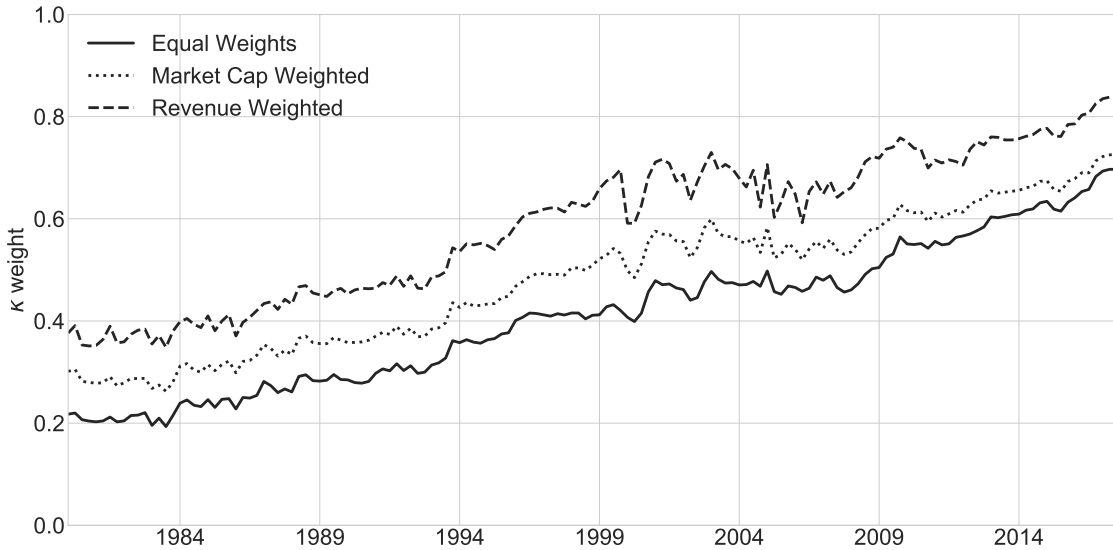


Figure 2: Average Common Ownership Profit Weights ( $\kappa$ ) for S&P 500 Constituents

Source: Backus et al. (2021b).

Note: Excludes firms with dual-class shares and controlling shareholders.

<sup>1</sup>Other assumptions on  $\gamma_{fs}$  include placing equal weight on all blockholders meeting a 5% or 10% ownership threshold.

<sup>2</sup>See Backus et al. (2021b).

## Consequences for Merger Policy

What are the likely consequences of incorporating “common ownership” effects into the Merger Guidelines? We highlight some important areas below:

### 1. More proposed mergers will trigger initial screens based on market concentration.

Current thresholds are based on  $HHI = \sum_f s_f^2$  where industries with  $HHI \geq 2,500$  considered “highly concentrated”. If common ownership affects the pre-merger behavior of firms, then the  $HHI$  measure understates the true measure of effective concentration and we need to augment it with an additional components (sometimes called  $MHHID$ ):

$$MHHI = HHI + \underbrace{\sum_f \sum_{g \neq f} \kappa_{f,g} s_f s_g}_{MHHID}$$

This extra term means that  $MHHI \geq HHI$ . Without adjusting thresholds, this means many more mergers would exceed the “highly concentrated” or “moderately concentrated” thresholds.

As a concrete example, consider an industry with five equally sized firms with  $HHI = 2,000$  which would be considered “moderately concentrated” under existing guidelines. If each firm placed a weight of  $\kappa = 0.75$  on the profits of all other firms, this would imply  $MHHI = 8,000$  which would suggest the effective concentration (and markups) are higher than in a duopoly where the largest firm controlled 88% of the market.

### 2. Predicted price and concentration impacts of many mergers will decline.

Prospective merger analysis has operated under the assumption that pre-merger firms do not internalize the impact on each other’s profits  $\kappa = 0$ , while post-merger they fully internalize that impact  $\kappa = 1$ . Incorporating common ownership would increase the pre-merger value of  $\kappa$  significantly thereby reducing the impact of a horizontal merger among commonly owned firms.

Currently, the change in concentration from a merger is given by twice the product of the shares for the two merging parties  $\Delta HHI = 2 \cdot s_f \cdot s_g$ . With the addition of common ownership the change in concentration from the merger becomes:

$$\Delta MHHI(f, g) = (2 - \kappa_{fg} - \kappa_{gf}) s_f s_g + \sum_h \Delta \kappa_{fh} s_f s_h + \sum_h \Delta \kappa_{gh} s_g s_h. \quad (2)$$

The first term is smaller  $(2 - \kappa_{fg} - \kappa_{gf}) \leq 2$  because common ownership implies some internalization of competitive effects pre-merger. The other two terms may be *positive* or *negative*, and depend on how the merger changes the profit weights of the merging parties vis-a-vis the non-merging parties  $\Delta \kappa_{fg}$  and  $\Delta \kappa_{gh}$ , which we discuss below.

This means that for many mergers  $MHHI > HHI$  but  $\Delta MHHI < \Delta HHI$ . That is pre-merger concentration is higher, but the change in effective concentration caused by the merger will be lower

(and might be negative). Continuing with the same example of five equally-sized firms and  $\kappa = 0.75$ , and allowing two firms to merge: the  $\Delta HHI = 800$  while the  $\Delta MHHI = 200$ .<sup>3</sup>

Similar issues arise when considering upward pricing pressure calculations:

$$UPP_f = [\Delta mc_f + (1 - \kappa_{fg}) \cdot (p_g - mc_g) \cdot D_{fg}]. \quad (3)$$

Again absent common ownership, prior to a merger of  $(f, g)$  we have that  $\kappa_{fg} = 0$ . If under common ownership the pre-merger  $\kappa_{fg} = 0.75$ , then the effective change in opportunity cost, and required compensating marginal cost reductions will be  $\frac{1}{4}$  as large. An alternative way to view this would be that the pre-merger  $(1 - \kappa_{fg})$  scales the diversion ratio. So a pre-merger  $\kappa = 0.75$  and a Diversion ratio of  $D_{fg} = 60\%$  would lead to the same UPP calculation as a Diversion ratio of  $D_{fg} = 15\%$  under the current guidelines. This would drastically reduce the level of efficiencies merging parties would need to demonstrate to offset changes in pricing pressure.

As a concrete example, McClane and Sinkinson (2021) consider the merger of Aetna and Humana which was ultimately abandoned in 2017. Pre-merger (and assuming proportional control) Humana's weight on Aetna would have been  $\kappa = 0.6$ , so that the required efficiencies would only need to have been 40% as large as those ignoring potential common ownership effects. Meanwhile Aetna's weight on Humana  $\kappa > 1$  pre-merger suggesting that Aetna was already fully incorporating its impact on Humana's profits. Had this merger been proposed under guidelines which mechanically incorporated the impacts of common ownership, and without changing any presumptions, it could have been justified with much smaller efficiencies, and would have been much more difficult for the DOJ to block.

### 3. Financial structure of mergers will impact predicted price and concentration measures.

Prospective merger analysis has typically ignored the financial structure of mergers and acquisitions. However, whether firm  $f$  acquires firm  $g$  for all cash (and keeps the financial ownership structure of  $f$ ) or acquires firm  $g$  as part of a stock-swap arrangement will have different impacts on the degree of common ownership between the merged firm and third-parties:  $\Delta\kappa_{f,h}$  from (2). Mergers which lead to the shareholders holding more similar post-merger portfolios will lead to positive  $\Delta\kappa_{f,h}$  and potentially larger estimated effects on prices and concentration. Conversely, mergers which lead investor portfolios to be less similar to one another post-merger will lead to smaller estimated effects on prices and concentration.

### 4. Acquisitions of horizontal competitors by entities without significant financial stakes in rivals (e.g.: Private Equity) may (incorrectly) appear to be pro-competitive.

The types of transactions most likely to make post-merger portfolios less similar to one another is when a publicly traded firm is acquired by a private firm. Unless the private firm owns significant financial stakes in publicly traded rivals, the net result will be that the change in common ownership with non-merging parties:  $\Delta\kappa_{fh}$  and  $\Delta\kappa_{hf}$  will be negative and substantial.

If merger analysis were to incorporate common ownership effects, it would tend to favor these transactions relative to transactions where two publicly traded firms were to merge. This would lead to a

---

<sup>3</sup>Here we are assuming that the merger does not impact the ownership structure of non-merging firms  $\Delta_{fh} = \Delta_{gh} = 0$ .

lower burden of proof (lower compensating marginal cost reductions or other efficiencies) on mergers where the acquirer used private equity.

A similar scenario arises when firms are acquired by foreign rivals, whose investors tend to be less similar to those in firms traded on US exchanges.

Continuing with the sample example of a merger between two firms in an industry with five equally sized firms, if the merged firm were to become “private” such that it eliminated any overlap in ownership with non-merging firms:  $\kappa_{fh} = \kappa_{gh} = -0.75$ , then  $\Delta MHHI = -1,600$  —suggesting that the merger would produce a substantial *reduction* in effective concentration.

**5. If the common ownership hypothesis is correct, then merger analysis should always have been including the impact of both layers of ownership.**

Many years of failing to incorporate levels of common ownership when analyzing a transaction suggests that DOJ/FTC have been systematically *under-predicting* (or ignoring altogether) effects of growing diversification and investor concentration, but *over-predicting* effects of product market transactions which would have been mitigated by high pre-existing levels of common ownership.

Merger retrospectives (Kwoka, 2014) that systematic *over-prediction* of the price effects for horizontal mergers seems unlikely.

**6. Incorporating common ownership effects into vertical mergers will reduce the extent to which mergers are estimated to eliminate double marginalization (EDM).**

In some cases internalizing the effect of firm decisions on other firms is efficiency enhancing. This would have nearly the opposite effect from common ownership among horizontal competitors (where internalizing effects on one another leads to a reduction in competition).

The most important example is likely to be the elimination of double marginalization in the vertical context. If firms partially internalize double marginalization effects pre-merger (such as  $\kappa = 0.75$ ), then this limits the scope that a merger might increase efficiencies among the merging parties, in part because it suggests firms would reduce double marginalization pre-merger.

**Summary of Recommendations Regarding Common Ownership**

1. Incorporating “common ownership” effects into prospective merger evaluation is likely to lead to less strict merger enforcement, and would be a giveaway to defense of horizontal mergers. If firms are already “partially merged” ex-ante, the scope for mergers to reduce competition is limited because the damage has already been done. Some otherwise anti-competitive mergers (particularly those involving foreign firms and private equity) would appear pro-competitive, even without the need to demonstrate cost efficiencies.
2. Providing guidance related to Section 8 of the Clayton Act seems like an important step, though perhaps not as part of the Merger Guidelines. The crucial question is whether a large investment manager (BlackRock, Vanguard, StateStreet) or hedge fund (Citadel, AQR, etc.) can have two employees or agents serving as board members of horizontal competitors. This would be an easy way for a common owner to coordinate behavior and soften competition. This situation might also arise in the case of

privately held firms, where the same venture capital firm might have directors on the boards of two competitors.

3. The ability of the FTC/DOJ to monitor and measure common ownership and potential negative effects on competition is limited by the quality of data on financial ownership. The 13F filings were not really designed to measure the extent to which firms have investors in common. The agencies could greatly improve the ability to study common ownership, and any competition problems it creates, by requiring such data to be reported accurately and regularly. Cooperation with the SEC going forward on financial disclosures is crucial. One overlooked aspect is that the entities which file 13F's may not align with the entities which actually participate in corporate governance. For example, investment managers may hold shares as part of mutual funds where they control votes, but also as part of custodial accounts where individual investors control votes. These are often difficult to disentangle given the current state of reporting requirements. Other issues relate to how short-sales and securities lending are treated.<sup>4</sup>

In 2020, the SEC proposed a substantial increase in the reporting threshold for 13F filings that would drastically reduce the number of investors who would be required to report their holdings. Actions like this would make common ownership nearly impossible to measure going forward.<sup>5</sup>

To preserve the option to take action with regards to common ownership in the future, an investment in the quality of data related to ownership (and corporate control) needs to be addressed today in partnership with the SEC.

## References

- AZAR, J., S. RAINA, AND M. C. SCHMALZ (2019): "Ultimate Ownership and Bank Competition," SSRN Scholarly Paper ID 2710252, Social Science Research Network, Rochester, NY.
- AZAR, J., M. C. SCHMALZ, AND I. TECU (2018): "Anticompetitive Effects of Common Ownership," *The Journal of Finance*, 73, 1513–1565.
- BACKUS, M., C. CONLON, AND M. SINKINSON (2020): "Theory and Measurement of Common Ownership," *AEA Papers and Proceedings*, 110, 557–560.
- (2021a): "Common Ownership and Competition in the Ready-to-Eat Cereal Industry," Working Paper 28350, National Bureau of Economic Research.
- (2021b): "Common Ownership in America: 1980–2017," *American Economic Journal: Microeconomics*, 13, 273–308.
- BRESNAHAN, T. F. AND S. C. SALOP (1986): "Quantifying the competitive effects of production joint ventures," *International Journal of Industrial Organization*, 4, 155–175.
- COLLINS, S. (2022): "Common Sense Doesn't Support Common Ownership Hypothesis," .
- KWOKA, J. (2014): *Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy*, Cambridge, MA, USA: MIT Press.
- MCCLANE, J. AND M. SINKINSON (2021): "Uncommon Implications of the Common Ownership Hypothesis," SSRN Scholarly Paper ID 3902736, Social Science Research Network, Rochester, NY.

---

<sup>4</sup>See the SEC Inspector General Report on this matter (Schapiro et al., 2010)

<sup>5</sup>See <https://www.federalregister.gov/documents/2020/07/31/2020-15322/reporting-threshold-for-institutional-investment-manager>

- NOVICK, B. (2019): “Diversified Portfolios Do Not Reduce Competition,” Citatio Key: NovickCorpGov2019.
- O’BRIEN, D. P. AND S. C. SALOP (2000): “Competitive Effects of Partial Ownership: Financial Interest and Corporate Control,” *Antitrust Law Journal*, 67, 559–614.
- ROTEMBERG, J. (1984): “Financial transaction costs and industrial performance,” Working Paper, Cambridge, Mass. : Massachusetts Institute of Technology.
- SCHAPIRO, M., A. J. DONOHUE, AND H. HU (2010): “Review of the SEC’s Section 13(f) Reporting Requirements,” 56.