

COMMON OWNERSHIP AND ANTITRUST CONCERNS

November 2017





COMMITTEE ON CAPITAL MARKETS REGULATION



The Committee is an independent 501(c)(3) research organization, financed by contributions from individuals, foundations, and corporations. The Committee's membership includes thirty-eight leaders drawn from the finance, business, law, accounting, and academic communities. The Committee Co-Chairs are R. Glenn Hubbard, Dean of Columbia Business School, and John L. Thornton, Chairman of the Brookings Institution. The Committee's Director is Hal S. Scott, Nomura Professor and Director of the Program on International Financial Systems at Harvard Law School.

Founded in 2006, the Committee undertook its first major report at the request of the incoming U.S. Secretary of the Treasury, Henry M. Paulson. Over ten years later, the Committee's research continues to provide policymakers with an empirical and non-partisan foundation for public policy.

The growth of the asset management industry over the last two decades has been a boon for retail investors and savers, providing numerous benefits. Index funds, in particular, give savers historically low-cost access to a diversified investment portfolio.¹ Recently, however, much attention has been given to a fledgling line of empirical economic research alleging antitrust concerns arising from institutional equity ownership.² The recent research argues that when institutional investors own equity stakes in multiple competing firms in an industry, this “common ownership” produces anti-competitive effects. Moreover, some of this research attempts to implicate the rise of index funds as being particularly responsible for the anti-competitive behavior.³ On the other side of the issue, however, subsequent academic research has called into doubt the reliability of the empirical methods used to produce the results.⁴

Of particular concern, this research has already led to policy discussions and papers that advocate remedies for this issue. These policy discussions take the empirical results of the earlier papers at face value, despite ongoing debate around the empirical methodologies. Some legal scholars have argued that antitrust cases could be made against asset managers,⁵ and have suggested far reaching policy measures,⁶ including limiting large institutional investors to investments in only a single firm in a given industry or, alternatively, to owning less than 1% of the equity in each firm in an industry.⁷ Either of these proposals would effectively eliminate a majority of index funds that rely on industry-wide ownership of firms and would severely limit investment opportunities for retail investors and savers with the potential for extremely costly consequences. For that reason, it is important to clearly understand what the current economic research has and has not proved. While the common ownership debate is still in an early stage, the interest it has received necessitates a response.

The Committee finds that, overall, the economic results of the common ownership research have now been countered by subsequent academic studies, and antitrust analysis

¹ For example, index equity mutual funds had a weighted average expense ratio of 9 basis points in 2016, down from 27 basis points in 2000 according to the Investment Company Institute (ICI), ICI Fact Book (2017), https://www.ici.org/pdf/2017_factbook.pdf at 96.

² José Azar et al., *Anti-Competitive Effects of Common Ownership* (Uni. of Navarra IESE Bus. Sch., Working Paper No. 1169-E, Mar. 23, 2017) [hereinafter Azar et al. 2017]; José Azar et al., *Ultimate Ownership and Bank Competition*, (Uni. of Mich. Ross Sch. of Bus., Working Paper, 2016) [hereinafter Azar et al. 2016]; Miguel Antón et al., *Common Ownership, Competition, and Top Management Incentives* (Ludwig-Maximilian Uni. Center for Economic Studies, Working Paper No. 6178, Aug. 15, 2016).

³ See Azar et al. 2016.

⁴ See, e.g., Daniel P. O’Brien and Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think* (Feb. 22, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2922677; see also Patrick Dennis et al., *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* (Nov. 1, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465; see also Jacob Gramlich and Serafin Grundl, *Testing for the Competitive Effects of Common Ownership*, Wash.: Bd. of Governors of the Fed. Res. Sys. (Fin. and Econ. Discussion Series, Working Paper No. 2017-29), <https://doi.org/10.17016/FEDS.2017.029>.

⁵ See Einer Elhauge, *Horizontal Shareholding*, 129 Harv. L. Rev. 1267, 1317 (2016); see also Fiona M. Scott Morton and Herbert J. Hovenkamp, *Horizontal Shareholding and Antitrust Policy*, Uni. of Penn. L. Sch. Faculty Scholarship (2017), http://scholarship.law.upenn.edu/faculty_scholarship/1933.

⁶ See Eric A. Posner et al., *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, Working Paper, Jan. 29, 2017.

⁷ Eric Posner et al., *A Monopoly Donald Trump Can Pop*, N.Y. Times, Dec. 7, 2016, <https://www.nytimes.com/2016/12/07/opinion/a-monopoly-donald-trump-can-pop.html>.

based on the early research has been premature. No solutions are necessary to a problem that has not been proven to exist. As we explain below, given the critiques of the research methodology, the debate is still in its early stages and no firm conclusions can yet be made.

I. OVERVIEW OF THE COMMON OWNERSHIP ISSUE

The theory underlying the common ownership research posits that when a single investor owns equity in multiple competing firms in an industry (i.e. “common ownership”), management of the competing firms will seek to maximize the total portfolio returns of the common owner, rather than maximizing the profits of their own individual firm. As a result, common ownership causes competing firms to collectively behave less competitively and more monopolistically than if they did not share a common owner. Importantly, the common ownership research assumes that even minority common ownership shareholdings (e.g. less than 10% ownership) can produce these anticompetitive effects.⁸

Three main papers are at the center of the debate, focusing on the airline industry, the banking industry, and executive compensation (collectively, “the common ownership papers”). The first paper, authored by Jose Azar, Martin Schmalz and Isabel Tecu, studies common ownership in the context of the airline industry (the “airline paper”), suggesting that common ownership of airlines by institutional investors leads to average ticket price increases of 3%-7%.⁹ The second paper, authored by Jose Azar, Sahil Raina and Martin Schmalz, studies common ownership concerns in the banking industry (the “banking paper”), suggesting that increased common ownership of banks leads to higher checking account maintenance fees, higher minimum account balance requirements, and lower interest rates to savers.¹⁰ The third paper, authored by Miguel Anton, Florian Ederer, Mireia Gine and Martin Schmalz, studies the common ownership concerns related to executive compensation (the “executive compensation paper”), suggesting that increased common ownership has led to executive compensation packages that reward management less for the success of the manager’s own firm and more for the success of the industry as a whole.¹¹ The antitrust concern arises under the presumption that compensating executives for industry-wide profits rather than individual firm profits incentivizes anti-competitive behavior.¹²

II. GENERAL ISSUES WITH THE COMMON OWNERSHIP PAPERS

The common ownership papers do not establish convincing support for the assumptions necessary for the claim that common ownership poses antitrust concerns, and the implications of the assumptions remain unproved. First, the papers assume that asset managers, as shareholders, are incentivized to favor anti-competitive behavior among their portfolio firms. They also implicitly posit that company executives are motivated primarily by the goal of maximizing the returns of an asset manager’s entire portfolio, taking into account the asset

⁸ For example, the common ownership theory is applied to the airline industry, in which none of the three largest airlines (American, Delta, and United) has a shareholder with more than 10% equity. *See* Azar et al. 2017, *supra* note 2, at Table 1.

⁹ *Id.*

¹⁰ Azar et al. 2016, *supra* note 2.

¹¹ Antón, *supra* note 2.

¹² *Id.*

manager's ownership stakes in the firm's rivals, while disregarding the best interests of other (non-institutional) shareholders.¹³ Importantly, however, the papers only consider the portfolio returns in the specific industry being studied, ignoring the rest of the asset manager's portfolio. For example, in the airline paper, the empirical model only considers an asset manager's holdings of airline stocks, independent of the other non-airline stocks in the portfolio. But while increased ticket prices may increase profits for the airlines, the higher costs of air travel may reduce profits for many of the non-airline firms also held by the asset manager. The net effect of anti-competitive behavior on the asset manager's total portfolio may in fact be negative, but the common ownership papers ignore these dynamics entirely. Finally, the common ownership papers imply that pricing decisions by company management are increasingly anti-competitive as common ownership increases.

These critical assumptions and the implications of their claims have not been supported by theory or convincing empirical evidence. Previous academic research has theorized potential concerns of *cross ownership*, whereby one firm acquires an equity stake in a rival firm (e.g. if American Airlines owned 5% of United Airlines).¹⁴ Arguably, as one firm increases its ownership stake in a rival, that firm becomes less incentivized to compete with its rival. Further academic research has generalized the cross ownership theory to include instances of *common ownership*, whereby a single investor owns partial stakes in multiple competing firms (e.g. if Warren Buffet owned 5% of American Airlines and 5% of United Airlines).¹⁵ However, even this *direct* common ownership theory is distinct from the theory assumed by the common ownership papers. Rather, the papers extend the common ownership theory to include financial intermediaries, such as asset managers, who do not directly own the equity but instead manage portfolios on behalf of the ultimate owners. While the asset manager may manage multiple portfolios with equity stakes in competing firms, the ultimate owners of the equity (e.g. the fund investors) may not be common owners themselves. For example, consider the following hypothetical cases of common ownership:

Case 1: Warren Buffet directly owns 5% of American Airlines and 5% of United Airlines.

Case 2: Warren Buffet invests in a passive index fund that holds 5% of American Airlines and 5% of United Airlines.

Case 3: Warren Buffet invests in an active fund that holds 5% of American Airlines, and George Soros invests in a different active fund run by the same asset manager that holds 5% of United Airlines.

The methodology for calculating the common ownership measure in the common ownership papers would treat all three cases equivalently with no distinction among the three, implicitly assuming that all three cases would produce equal anti-competitive effects.

¹³ The papers approximate ownership stakes through 13F disclosures, which are filed by institutional investment managers. Shareholder stakes that are not captured in 13F filings are not considered.

¹⁴ See Bresnahan & Salop (1992). Timothy F. Bresnahan and Steven C. Salop, Quantifying the Competitive Effects of Production Joint Ventures, 4 Int'l J. of Industrial Org. 155 (1986).

¹⁵ See Steven C. Salop and Daniel P. O'Brien, Competitive Effects of Partial Ownership: Financial Interest and Corporate Control, 67 Antitrust L.J. 559 (2000).

However, the economic incentives of Warren Buffet in Case 1 are materially different from the economic incentives of the asset manager in Case 3.

The common ownership papers provide no support for treating each of these cases equivalently. Despite this, the papers aggregate an asset manager's equity ownership in the most inclusive manner possible, aggregating across all funds, both passive and active, when measuring common ownership. For example, the airline paper aggregates an asset manager's American Airlines stock regardless of whether the stock is held by a passive S&P 500 index fund, by a passive airline index fund, by an active fund focused on all U.S. equities, or by an active fund focused on the airline industry. While the asset manager is primarily motivated by minimizing costs and tracking error in the case of the S&P 500 index fund, it is more motivated by the outperformance of American Airlines over other firms in the case of the active funds. However, the common ownership papers do not make this distinction. Furthermore, the papers do not adjust the calculation of the common ownership measure to distinguish either between *cross ownership* and *common ownership* or between *common ownership by direct investors* and *common ownership through financial intermediaries*.¹⁶

Even without robust theoretical support, if the data were to show empirically that common ownership, measured as such, indeed causes higher ticket prices or lower interest rates to savers, then there might be more cause for concern. However, even under the most inclusive approach to aggregating equity ownership, the empirical conclusions of each of the three common ownership papers are inconclusive and have been thoroughly put into doubt by subsequent research, some of which shows opposite results.

III. EMPIRICAL ISSUES IN THE COMMON OWNERSHIP PAPERS

Collectively, the counter-studies to the common ownership papers call the original results into question. We highlight key critiques of each common ownership paper, with a particular focus on the airline paper, given its foundational role.

(i) Airline Paper

The airline paper seeks to study the relationship between common ownership and airline ticket prices, ultimately arguing that increased common ownership has led to higher average ticket prices of 3-7%.¹⁷ Importantly, the first step for such an empirical study is to quantify the degree of common ownership among firms. The airline paper proposes the modified Herfindahl-Hirschman Index ("MHHI") for this purpose.¹⁸ The MHHI is a concentration measure that augments the standard HHI concentration measure used in antitrust analysis by adding an additional term for the concentration effects of common ownership. Algebraically, the MHHI is defined as follows:

$$MHHI = HHI + MHHI \text{ delta}$$

¹⁶ Edward B. Rock and Daniel L. Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance* (2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2925855 [hereinafter *Defusing the Antitrust Threat*].

¹⁷ See Azar et al., 2017.

¹⁸ *Id.*

The MHHI delta (“MHHID”) represents the contribution of common ownership to the MHHI concentration measure. The MHHID is calculated based on: (i) the relative equity stakes of common owners, (ii) the market shares of each firm in the market, and (iii) the effective control that each common owner has over a firm.¹⁹ Effective control essentially represents the degree to which a firm’s manager will consider the preferences of a common owner.²⁰ In the airline paper, the authors assign control weights based on the assumption of proportional control, meaning that if a shareholder owns 10% of the voting shares of a firm, then the control weight will also be 10%. However, there is no established theory to support the assumption of proportional control, nor is there theory or empirical evidence to support the assumption that firm management pays any attention to its owners’ equity holdings in rival firms. Nonetheless, the airline paper assumes proportional control for purposes of calculating the MHHID.

The MHHID serves as the key explanatory variable in the airline paper’s analysis. The authors find a statistically significant relationship between MHHID and ticket prices, specifically that MHHID and ticket prices are positively *correlated*.²¹ However, the authors go a step further and argue that common ownership has *caused* higher average ticket prices, estimating a price effect of 3-7%. This conclusion is based on an *inappropriate use of the MHHID* and is therefore not supported by the empirical model.

The empirical methodology and the authors’ interpretations of their results are flawed, since as designed, the airline paper does not accurately test what the authors seek to test. The paper attempts to identify a *causal* link between common ownership and ticket prices by using the MHHID as the proxy for common ownership. If an increase in MHHID is shown to cause an increase in ticket prices, then it follows that common ownership causes increases in ticket prices, according to the claims of the paper. However, for this conclusion to hold, it must be that (i) the MHHID measure is an appropriate proxy for common ownership and (ii) *causation* between MHHID and ticket prices is established, rather than merely *correlation*.

Using MHHID to proxy for *changes in common ownership* is misguided and leads to unsubstantiated claims. According to academics who were involved in the development of the MHHID, “the effect of common ownership on price cannot be determined from the MHHI.”²² For the MHHID to be an appropriate proxy for common ownership, it must be the case that MHHID always moves in the same direction as common ownership. MHHID must increase whenever common ownership increases or decrease whenever common ownership decreases. However, this is not the case, primarily due to the fact that MHHID relies on market shares,

¹⁹ In the airline study, the authors use the MHHI as proposed by Salop and O’Brien in *Competitive Effects of Partial Ownership*, *supra* note 14.

²⁰ See Daniel P. O’Brien and Keith Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think* (Feb. 22, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2922677 [hereinafter *We Know Less than We Think*].

²¹ The correlation between the two implies that an increase in MHHID from 0 to 2,000 (the average MHHID in 2014) corresponds to an increase in ticket prices of 3-7%. Correlation is not surprising given that, among other reasons, improvements in the economy that led to higher ticket prices may have occurred concurrently with the rise of index ownership over the time period studied.

²² *We Know Less than We Think*, *supra* note 20, at 18.

which can move independent of common ownership. As a result, the MHHID can fluctuate even if common ownership remains stagnant and can even move in the opposite direction of common ownership.²³ O'Brien & Waehrer (2017) point out that "the [MHHID] and the MHHI may rise *or fall* [emphasis added] with an increase in common ownership."²⁴ So a change in MHHID does not necessarily correspond to a change in common ownership, making MHHID an unsuitable proxy for common ownership in the airline paper's empirical model. As a result, identifying a statistically significant link between MHHID and ticket prices *does not* translate to an equivalent link between common ownership and ticket prices. Given this flaw in the key explanatory variable, the results of the airline paper are inconclusive. While the MHHID may be correlated with ticket prices, the question of common ownership's relation to airline ticket prices remains unproven.

The airline paper also does not prove causation versus correlation. Even if MHHID were a suitable proxy for common ownership, a positive correlation between MHHID and ticket prices is not evidence that an increase in MHHID *causes* an increase in ticket prices. Since the calculation of MHHID includes the relative market shares of airlines in a given market, exogenous factors that affect ticket prices will likely also affect relative market shares, and therefore, affect MHHID.²⁵ The same factors that increase ticket prices may simultaneously, but independently, increase MHHID as well. While this leads to positive correlation between the two measures, it would be incorrect to claim that the increase in MHHID caused the increase in ticket prices.

Suppose airline ticket prices in a market increase purely due to changes in demand by airline customers, such as seasonal demand shifts in certain markets (e.g. flights from the northeast to south Florida in the winter). The change in customer demand may increase ticket prices and may also increase the relative market share of a particular airline servicing that market. Since the MHHID incorporates market share, the increase in market share will affect the calculation of the MHHID, even if common ownership is unchanged. As a result, while ticket prices and MHHID both increase, that co-movement does not prove that higher MHHID causes higher ticket prices. Rather, both were affected independently by the seasonal demand change, so it would be incorrect to conclude that the MHHID increase *caused* the increase in ticket prices. Furthermore, common ownership has played no role in this example. However, the airline paper would conclude that common ownership was the culprit in the ticket price increase, despite having no effect in this case.

These empirical issues have been identified in numerous academic studies and subsequent empirical studies have found contrasting results.²⁶ Kennedy, O'Brien, Song & Waehrer (2017) use alternative models testing the effect of common ownership on airline ticket prices, estimating common ownership in a more direct manner that removes the problems caused by the inclusion of market shares in the MHHID.²⁷ In this alternative model of common

²³ *See Id.*

²⁴ *Id.* at 16.

²⁵ *See Id.*

²⁶ *See, e.g., Defusing the Antitrust Threat, supra* note 16; *We Know Less than We Think, supra* note 20.

²⁷ Pauline Kennedy et al., *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence* (July 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331&download=yes.

ownership, the study finds that common ownership *decreases* ticket prices, completely reversing the results of the original airline paper.²⁸ The Kennedy et al. paper also estimates an additional empirical model to test whether the assumption of proportional control, used in the original airline paper, is sufficient for common ownership to affect prices. The results suggest that there is no evidence that partial owners with proportional control exert any influence on a manager's pricing decision.²⁹ Dennis, Gerardi & Schenone (2017) ("DGS") also challenges the results of the airline paper, finding that the results depend heavily on the paper's method of giving more statistical weight to airline routes with higher passenger volume.³⁰ When all routes are considered equally, DGS determines that the airline paper's conclusions disappear, further highlighting that the airline paper's results only hold under very specific assumptions in the empirical model.

The control assumptions in the airline paper are also further challenged by the DGS paper. In particular, DGS notes that several airlines in the study were involved in bankruptcy proceedings, during which time the fiduciary duties of management shift *from shareholders to creditors*.³¹ However, despite this shift in fiduciary duty, the airline paper continued to assume that shareholders retained the same level of pre-bankruptcy control in bankrupt airlines.³² DGS also highlights the over-inclusiveness of the control assumptions used in the airline paper. The airline paper calculated control based on 13F filings, which distinguish shares as having either "sole," "none," or "shared" voting rights. While shares with "sole" voting rights should certainly be counted in full and shares with "none" should be ignored, there is ambiguity as to the practical amount of control held through shares with "shared" voting rights. However, despite this ambiguity, the airline paper treated "shared" rights as equivalent to "sole" rights, while DGS argues that a more reasonable approach would be to include only "sole" rights.³³

Given that these multiple alternative models produce results that contradict the original airline study, it becomes apparent that the conclusions of the airline paper are dependent on an unsuitable use of the MHHID and are not robust to more accurate models of common ownership's effect on prices. Overall, the issues in the empirical methodology of the airline paper along with the contrasting results found in multiple subsequent studies indicate that no antitrust problem has been established in the airline industry resulting from common ownership by asset managers.

(ii) Banking Paper

The banking paper seeks to identify a causal relationship between common ownership and anti-competitive effects in the banking industry, arguing that increased common ownership has led to higher checking account maintenance fees, higher minimum account balance

²⁸ *Id.*

²⁹ *Id.*

³⁰ Patrick Dennis et al., *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry* (Nov. 1, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465.

³¹ *Id.*

³² *Id.*

³³ *Id.*

requirements, and lower interest rates to savers.³⁴ Similar to the identification strategy in the airline paper, the banking paper uses a generalized HHI (“GHHI”) as its key explanatory variable for common ownership. The GHHI is calculated in a manner similar to the MHHI, but also allows for cross ownership of firms in addition to common ownership. The inclusion of cross ownership is important in the banking industry since many banks have asset management divisions that own stakes in rival banks (e.g. through an index fund managed by the asset management division). However, despite the GHHI being a more comprehensive concentration measure, the problems in the empirical study remain. Using GHHI as a proxy for common ownership suffers from the same problems as the MHHI, primarily given the continued reliance on market shares. As was the case with MHHI, the GHHI may fluctuate regardless of any changes in common ownership, making GHHI an equally inappropriate measure of common ownership for purposes of examining a link between common ownership and bank fees.

A study conducted by economists at the Federal Reserve seeks to remedy the problems with the use of GHHI, by focusing on measures of common ownership that do not rely on the MHHI or GHHI.³⁵ Gramlich & Grundl (2017) propose an empirical methodology that focuses on the relative weights that firm managers place on the profits of competing firms, thus excluding the problems that arise with GHHI’s incorporation of market share. Based on this alternative specification of the model, Gramlich & Grundl (2017) find no conclusive causal link between common ownership and pricing in the banking industry.³⁶ As was the case with the airline paper, the main takeaway is that the conclusions of the banking paper are dependent on an improper use of the MHHI or GHHI and are not robust to alternative models of common ownership’s effect on prices.

(iii) Executive Compensation Paper

The executive compensation paper seeks to identify a causal relationship between common ownership and executive compensation, studying whether increased common ownership has led to firms’ managers being compensated less for the success of their own firm and more for the success of the overall industry.³⁷ Arguably, such compensation structures would dis-incentivize firm management from engaging in competitive behavior with rival firms.

To conduct the empirical test, the authors again use the MHHID as their key explanatory variable, ultimately finding that the dependence of management compensation on the profits of rival firms is correlated with MHHID. The authors again go beyond their finding of correlation between the two measures, claiming to find evidence of causation as well. Under the positive correlation found, as MHHID increases, the pay of top managers increasingly depends on the profits of other firms in the industry.

³⁴ Azar et al. 2016, *supra* note 2.

³⁵ Jacob Gramlich and Serafin Grundl, *Testing for the Competitive Effects of Common Ownership*, Wash.: Bd. of Governors of the Fed. Res. Sys. (Fin. and Econ. Discussion Series, Working Paper No. 2017-29), <https://doi.org/10.17016/FEDS.2017.029>.

³⁶ *Id.*

³⁷ Antón, *supra* note 2.

COMMITTEE ON CAPITAL MARKETS REGULATION

The use of MHHID continues to be flawed for the numerous reasons discussed above, primarily because MHHID captures changes in market share, independent of changes in common ownership. Furthermore, in studying the determinants of executive compensation, the paper excludes many factors that would seem natural to include, such as industry-level risks. Without including all the reasonable factors that may affect executive compensation, any potential effects caused by common ownership cannot be determined with certainty.

Subsequent academic studies have also challenged the results of the executive compensation paper, even when employing the MHHID. In an alternative study conducted by Kwon (2017), the empirical results are reversed: common ownership increases the sensitivity of executive compensation to the profits of their own firm versus rival firms, thus promoting more aggressive competitive behavior.³⁸ The main difference between the two papers is that the executive compensation paper studies changes in terms of dollar amounts (e.g. a \$1 increase in pay), while Kwon (2017) studies changes in terms of percentages (e.g. a 1% increase in pay).³⁹ While the specific merits of the executive compensation paper's empirical model versus the Kwon model can be explored further, the main takeaway is that the conclusions with regard to common ownership are highly sensitive to the specific model being employed. In all likelihood, given that each study relies on the MHHID as a proxy for common ownership, neither represents an accurate estimate of common ownership's impact on executive compensation.

Not only are the empirical results of the executive compensation paper questionable, but also the assumption that asset managers even prefer such compensation structures is in direct contrast to the stated goals of the asset management industry. For example, in its annual report on investment stewardship, Vanguard highlights the importance of executive compensation that is based on the firm's performance *relative* to rival firms, thus contradicting the hypothesis of the executive compensation paper.⁴⁰ The lack of practical support for the underlying theory combined with the questionable empirical results further suggest that no convincing argument can yet be made linking common ownership to anti-competitive behavior.

IV. CONCLUSION

The recent debate around common ownership and competition risks harming savers if acted upon by policymakers. The empirical research that serves as the foundation for the discussion is flawed and has not proven a credible antitrust problem. The far-reaching proposals suggested by certain academics would have severe consequences to the investing public and, to date, are no more than solutions in search of a problem. The Committee is concerned that the initial conclusions generated by the common ownership papers have been misguided. The growth and evolution of the asset management industry has served society in numerous ways with savers having more access to low cost, diversified portfolios than ever

³⁸ Heung Jin Kwon, *Executive Compensation Under Common Ownership* (June 2017) (Ph.D. dissertation, U. Chi. Dept. of Econ.), <https://search-proquest-com.ezp-prod1.hul.harvard.edu/docview/1927904004>.

³⁹ *See Id.*

⁴⁰ Vanguard Investment Stewardship Annual Report, 2017 (noting “[t]he board plays a central role in determining appropriate executive pay that incentivizes performance relative to peers and competitors”) at 5.

before. Overwhelming evidence of an antitrust problem would be needed before taking measures that would deprive investors of these benefits.