CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

A new wave of economic and legal research suggests that common ownership by large institutional investors leads to potential anticompetitive effects. Other scholars and practitioners argue that there is no there…there.

In a recent interview, Vanguard founder John Bogle responded to possible antitrust concerns created by index funds in part by saying "People are just throwing up a whole lot of straw men in the hope that they can find some piece of mud that will stick."

As a recent BlackRock Viewpoint paper suggests, many believe that index funds are a "powerful force for the democratization of investment." Others ask: do index funds make companies less competitive? We hope to further the discussion of this hot topic, and other questions, in this month's edition.

We hope you enjoy reading our June edition of the CPI Antitrust Chronicle.

Thank you to our great panel of authors this month.

Sincerely,

CPI Team

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ANNOUNCEMENTS

REACHING OUT IN 2017

CPI wants to hear from you, our subscribers. In the coming months of 2017, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLE JULY & AUGUST 2017

The July 2017 Antitrust Chronicle will address issues related to **Healthcare Mergers**. This edition focus on recent hospital and insurance mergers rejected over antitrust concerns. What are some of the major takeaways?

As a reminder to potential authors, our tentative topic for the August 2017 Antitrust Chronicle is **Antitrust Antipasto**. A mix of antitrust topics.

Contributions to the Antirust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited (follow bluebook style for footnotes) and not be written as long ponderous law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions for the August edition by July 20, 2017 to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers in any topic related to competition and regulation, however, for the April and May issues, priority will be given to articles addressing the abovementioned topic. Co-authors are always welcome.

WHAT'S NEXT?

This section is dedicated to those who want to know what CPI is preparing for the next month. Spoiler alert!

We look forward to bringing our subscribers the July Antirust Chronicle of 2017 which will address **Healthcare Mergers – A Post-Mortem**.

INSTITUTIONAL INVESTMENT, COMMON OWNERSHIP AND ANTITRUST

BY XAVIER VIVES [1]

I. INTRODUCTION

The growth of institutional investment, owning up to 80 percent of the United States ("U.S.") stock market by 2010 when in 1950 it was about 7 percent, has been formidable. This rise of diversified institutional investment, where passive funds – such as index funds – play an increasingly important role, has raised antitrust concerns, mostly in the U.S. One reason is that the proportion of U.S. public firms in the hands of institutional investors, which at the same time hold large blocks of other firms in the *same* industry, has grown dramatically (from under 10 percent in 1980 to about 60 percent in 2010).[2] The result is that top shareholders of the main companies in quite a few industries are funds such as BlackRock, Vanguard, Fidelity or State Street and the likes. The concern is that managers may internalize the interests of these common stakeholders in their competitive industry decisions. Even though passive investors, in particular index funds, have no possibility to exercise control with an "exit," they do have a "voice." There is some evidence in the airline and banking sectors that common ownership may affect prices and customer conditions.[3]

II. ANTITRUST CONCERNS IN THE U.S. AND IN THE EU

In Canada and the U.S., minority shareholdings are scrutinized under the prevailing merger control rules. More specifically, in the U.S. they are examined with reference to the Clayton Act and the Hart-Scott-Rodino Act. It should be noted that there is an exception to antitrust scrutiny if the participation is "solely for investment" purposes. However, horizontal ownership arrangements can be challenged if they substantially lessen competition according to the antitrust statutes.[4] There are calls in the U.S.

1 Xavier Vives, IESE Business School.

2 He & Huang, *Product Market Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings* (2017), forthcoming REV. FIN. STUDIES.

3 Azar, Schmalz & Tecu study the U.S. airline industry, and find that ticket prices are about 10 percent higher on the average route than they would be if strategy decisions were made without regard to the investors' overlapping ownership holdings. Azar, Schmalz & Tecu, *Anti-competitive Effects of Common Ownership,* Ross School of Business Working Paper 1235 (2015). Similar results are obtained for the banking industry. Azar, Raina & Schmalz, *Ultimate Ownership and Bank Competition* (2016), available at: https://ssrn.com/abstract=2710252.

4 Section 7 of the Clayton Act prohibits acquisitions (of any part) of a company's stock that

to limit common ownership in oligopolistic industries in exchange for a safe harbor provision from enforcement of the Clayton Act.[5]

In Europe the concern arose mainly because of some notorious minority shareholdings operations such as Ryanair's acquisition of Aer Lingus's stock. The proposed *Ryanair/Aer Lingus* merger was notified to the European Commission ("EC") but when the EC prohibited the merger, Ryanair acquired a close to 30 percent stake in its competitor.[6] The problem for European antitrust authorities is that currently, the EC can consider the effects on competition only of pre-existing minority shareholdings in the context of a notified merger (and where the merging firms each have stakes in a third firm). The EC is considering to extend the scope of the Merger Regulation to be able to intervene under a "targeted transparency" system under which the EC and its Member States must be notified of potentially harmful acquisitions. Included in this category would be acquisitions of a minority shareholding — in a competitor or vertically related company — when either the acquired shareholding amounts to 20 percent or ranges between 5 percent and 20 percent but allows the acquirer "a de-facto blocking minority, a seat on the board of directors, or access to commercially sensitive information of the target."[7] However, during the 2016 ABA spring meeting, Commissioner Vestager announced that it was too early to announce a policy direction and that "the amount of red tape and the administrative burden it would put on businesses would not give you the benefit of a more competitive market."[8] Vestager noted that "only a handful of [minority acquisition] deals are likely to raise issues" and expressed a need to proceed cautiously, i.e. only once there is "compelling evidence that the system could work at European level – without creating a lot of complexity."[9]

III. INDUSTRIAL ORGANIZATION ANALYSIS

In order to gain some perspective on the issue at hand, it is worth recalling the, once upon a time dominant, structure-conduct-performance ("SCP") paradigm in Industrial Organization which is associated to Bain. According to the market power hypothesis developed by this approach, firms in concentrated markets protected by barriers to entry earn high price/cost margins and profits. It was found in cross section studies of industries that the relation between concentration (measured for example by the Herfindahl-Hirschman Index ("HHI")) and profitability was statistically weak and the estimated effect of concentration usually small. This approach was criticized by the Chicago School for not modeling the conduct of firms. The apparent correlation between concentration and profitability could be due to the fact, according to the efficiency hypothesis postulated by Demsetz, that large firms are more efficient, command larger price/cost margins and earn higher profits, and therefore concentration and industry profitability go together.

We can formulate a revised market power hypothesis as follows: Firms in markets with high levels of common/overlapping ownership earn high price/cost margins and profits because of reduced competitive pressure. Preliminary evidence consistent with such hypothesis, using a modified HHI which accounts for overlapping ownership, is in the work of Azar, Schmalz and co-authors for airlines and banking, as well as for a cross section of industries in the work of Banal-Estanol, Seldeslachts and Vives.[10]

"may" substantially lessen competition either by (a) enabling the acquirer to manipulate, directly or indirectly, prices or output or by (b) reducing its own incentives to compete. The "substantive" passive investor provision states that the prohibition does "not apply to persons purchasing such stock solely for investment and not using the same by voting or otherwise to bring about, or in attempting to bring about, the substantial lessening of competition." According the Hart-Scott-Rodino Act and the regulation of the Federal Trade Commission and the Department of Justice, (properly defined) passive investors acquiring no more than 15 percent of the stock of a corporation have a filing exemption. Salop & O'Brien, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control,* ANTITRUST L.J. 559-614 (2000), and Elhauge, *Horizontal Shareholding,* HARVARD L.REV. 1267-1317 (2016).

5 Posner, Scott Morton & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors* (2017), available at https://papers.ssrn.com/abstract=2872754.

6 In August 2013, the UK CC ordered Ryanair to sell its 29.8 percent stake in Aer Lingus down to 5 percent. Another notable case is the Renault-Nissan alliance, whereby Renault owns 44.3 percent of Nissan, which in turn owns 15 percent of Renault. In the U.S., other cases have also attracted attention: Northwest Airlines purchased 14 percent of the common stock of Continental Airlines Inc. and accepted to limit its voting power and yet an antitrust lawsuit followed; the largest cable operator TCI passively invested and purchased 9 percent stake of the second-largest cable operator, Time Warner; and Gillette's acquired about 23 percent of the nonvoting stock and 13 percent of the debt of one of its main competitors, Wilkinson Sword.

7 European Commission, *White Paper: Towards More Effective EU Merger Control (2014)*, COM (2014) 449 final.

8 Global Competition Review, April 8, 2016.

9 https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/ refining-eu-merger-control-system_en.

10 Banal-Estanol, Seldeslachts & Vives, *The Financial Crisis' Impact on Common Ownership and Competition*, mimeo (2017).

However, continuing with the analogy with the SCP paradigm, we can also formulate a revised efficiency hypothesis as follows: High levels of common/overlapping ownership and efficiency are associated because common/overlapping ownership improves information sharing, firm collaboration, corporate governance (because of, among other reasons, the presence of economies of scale in information production and monitoring an industry), and induces managers to reduce cost and/or improve performance. Large firms have more links due to overlapping ownership, better corporate governance, are more efficient, and command larger price/cost margins and earn higher profits. The result is that overlapping ownership and high price/cost margins and industry profits go together. Indeed, there is some evidence that passive investors use their voice and improve profitability (in terms of returns on assets)[11] and that cross-held firms have higher market share growth and profitability due to efficiency gains and enhanced innovation productivity.[12]

IV. WHAT IS IT THEN, MARKET POWER OR EFFICIENCY?

Banal-Estanol et al.[13] find that passive investors increased their holdings relative to active shareholders post-crisis (with data for 2004-2012 of all publicly listed firms in the U.S.). In principle, and other things equal, this should not lead to a higher degree of internalization of rivals' profits since passive investors exert less control than active ones. However, passive shareholders are (i) more diversified and (ii) have become more concentrated in the investment industry. This shift has led to more interconnected networks of common ownership and a potentially higher degree of internalization of rivals' profits. A (provisional) finding is that firms participated by passive investors increase both the degree of internalization and market share post crisis and that the effects are stronger in R&D intensive industries. In principle, both market power and efficiency interpretations of the results are possible. However, the authors show (tentatively) that this increase in passive and common ownership appears to have had a negative impact on product market competition (as measured by the profit elasticity of cost changes). This would be according to oligopoly theory (either of the Cournot or Bertrand variety) once common ownership patterns are taken into account.

Is there an efficiency defense? Overlapping ownership may help internalize R&D spillovers across firms and increase R&D effort when the spillovers are not too low. Empirical studies show, indeed, that R&D effort is suboptimal because of the presence of technological spillovers. The finding of López and Vives[14] is that if spillovers are high enough, then both R&D effort and output increase with a higher extent of overlapping ownership. In this context, a regulator would like to allow a certain degree of overlapping ownership, in particular when spillovers are high and R&D investment has a commitment value that influences competition in the marketplace. This is so since, in the latter case, firms have strong incentives to underinvest in R&D, say to expend effort to reduce production costs.

In summary, both theory and preliminary evidence point at potential antitrust concerns with the increase in common/overlapping ownership. This certainly calls for more antitrust scrutiny but, in my view, it is still early to advance and implement major changes in regulation and antitrust enforcement. Before that we need to have a better understanding of the channels of transmission of ownership patterns into competitive outcomes, via corporate governance,[15] and more empirical evidence of consumer harm and the effects on innovation.

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11 Appel, Gormley & Keim, *Passive Investors, Not Passive Owners* (2016), available at: http://ssrn.com/abstract=2475150.

12 He & Huang, supra note 2.

13 Banal-Estanol, Seldeslachts & Vives, supra note 6.

14 López & Vives, *Overlapping Ownership, R&D Spillovers, and Antitrust Policy*, (2016), available at: http://blog.iese.edu/xvives/publications/unpublished-research/.

15 Anton, Ederer, Giné & Schmalz relate the rise of common ownership to decreases in relative performance evaluation. Anton, Ederer, Giné & Schmalz, *Common Ownership, Competition, and Top Management Incentives*, (2017), available at: https://ssrn.com/abstract=2885826.

WHY COMMON OWNERSHIP CREATES ANTITRUST RISKS

BY JOSÉ AZAR, MARTIN SCHMALZ & ISABEL TECU [1]

I. INTRODUCTION

The share of stocks beneficially owned by institutional investors has increased substantially over the last three decades. Together with a high and increasing level of concentration in the asset management industry,[2] this trend implies that a small number of institutional investors now constitute the largest shareholders of most publicly traded firms in the U.S. and in other developed economies. When the same set of investors owns most firms, they are bound to own several firms in the same industry. Such overlapping ownership interests among competitors, or "common ownership," may imply a reduction in firms' incentives to compete, compared to a situation in which competitors are controlled by separate sets of investors, and may thus create antitrust risks. Recent empirical research shows evidence for such anticompetitive effects of common ownership. These findings have since ignited a debate on the antitrust risk posed by institutional investors, its legal implications and potential solutions.

This article first illustrates the extent of present-day common ownership and discusses the economic logic of why common ownership leads to reduced incentives to compete and may cause anticompetitive outcomes. We then review some of the empirical evidence to date, discuss critiques of the same and explain the conceptual problems inherent with all potential policy solutions. The legal debate around these findings is discussed by a fast-growing literature, including contributions by other authors in this issue.[3]

1 José Azar is Assistant Professor of Economics at University of Navarra's IESE Business School, jazar@iese.edu, Martin Schmalz is the NBD Bancorp Assistant Professor of Business Administration, Harry Jones Research Scholar, and Assistant Professor of Finance at the University of Michigan Stephen M. Ross School of Business, schmalz@umich.edu, and Isabel Tecu is an Associate Principal at Charles River Associates, itecu@crai.com. The conclusions set forth herein are based on independent research and publicly available material. The views expressed herein are the views and opinions of the authors and do not reflect or represent the views of Charles River Associates or any of the organizations with which the authors are affiliated.

2 See Professor Elhauge's article on this issue.

3 For example, see Elhauge, (2015), "Horizontal Shareholding," Harv. L. Rev., 129, 1267; Baker, J. B. (2016), "Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge," Harvard Law Review Forum, 129, 212-32; see also private law firms' assessments e.g. https://corpgov.law.harvard.edu/2016/05/24/antitrust-executive-order-and-common-ownership/ and https://corpgov.

II. EXAMPLES OF COMMON OWNERSHIP LINKS ACROSS INDUSTRY COMPETITORS

Table 1 shows the ownership structure of Virgin America before its acquisition by Alaska Air in 2016 as an example of an ownership structure which many think of as typical, but which in fact has become the exception rather than the norm. The largest three owners of Virgin America were entrepreneur Richard Branson, Cyrus Capital and Richard Branson's Virgin Group Holdings. None of them held significant ownership stakes in competing U.S. airlines, as far as we are aware.[4] A standard reading would be that Branson and Cyrus Capital's interest were in Virgin America's – and no other U.S. airline's – profits. Following economic logic, they would want Virgin America to lower prices or expand output to steal market shares from its competitors to the point where the benefits from doing so would outweigh the costs – in other words they would want Virgin America to compete. Note that Vanguard and BlackRock were also among Virgin's top five owners, but given the presence of much larger owners we would not expect them to have much influence over Virgin America's strategies.

Virgin America	[%]
Richard Branson	30.77
Cyrus Capital	23.52
Virgin Group Holdings	15.34
Vanguard	2.89
BlackRock	2.25
Alpine Associates Advisors	2.11
Hutchin Hill Cap.	2.09
Societe Gen	1.84
Apex Capital	1.74
Morgan Stanley	1.70

Figure 1: Ownership Shares of Virgin America, 2016 Q2. Source: S&P Capital IQ

Now, contrast Virgin America's ownership structure to that of most other U.S. airlines shown in Figure 2. Their largest owners are all large diversified investors like Vanguard and BlackRock, while large "separate" owners, like Branson and Cyrus Capital in the case of Virgin America, are largely absent. Therefore, there are no owners with significant influence who have a strong interest in competition between these airlines.

Figure 2: Largest Owners of U.S. Airlines (as of 2016Q4)

law.harvard.edu/2016/03/31/cross-ownership-by-institutional-investors/.

4 Branson also held large ownership interests in other non-U.S. airlines. It is our understanding that none of these airlines operated in the same markets as Virgin America.

Notes: Figure shows holdings by the top ten shareholders for each airline that hold at least three percent of shares. Owners that do not hold shares of any other of the airlines shown are grouped into "separate owners." Source: S & P Capital IQ.

These common ownership links are not limited to airlines; they are rather the rule in other industries as well. Figure 3 shows an example for U.S. banks: BlackRock, Vanguard and State Street are among the top five beneficial owners of each of the largest banks, and Fidelity and Berkshire Hathaway frequently complete the top five owners.

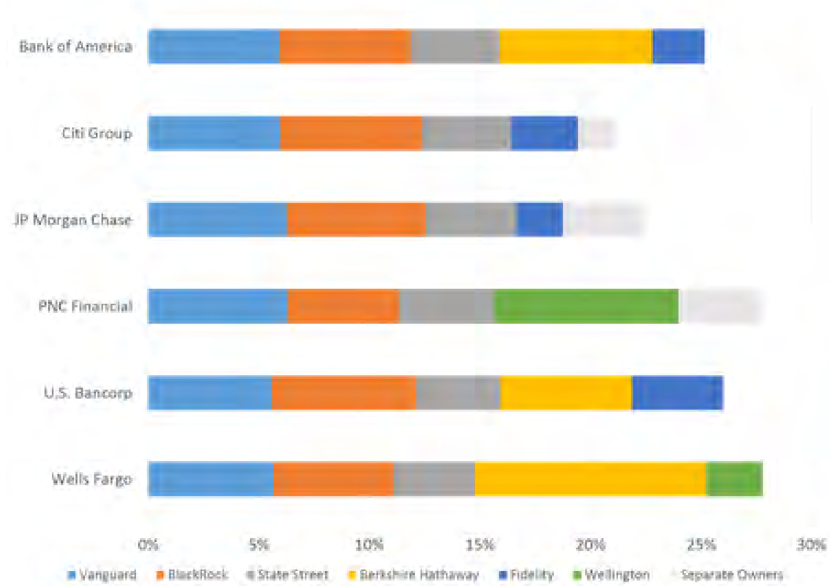

Figure 3: Largest Owners of U.S. Banks (as of 2016Q2)

Notes: Figure shows the holdings by the top five shareholders for each bank. Owners that do not hold shares of any other of the banks shown are grouped into "separate owners." Source: S&P Capital IQ.

This overlap of owners among competing firms is not limited to the U.S. Among European banks, as of 2016, BlackRock was the largest shareholder of HSBC, Deutsche Bank, Banco Popolare di Milano and Banco Bilbao Vizcaya Argentaria, 33 of the FTSE 100 firms, and 10 of the DAX 30. Deutsche Börse and the London Stock Exchange share two of their top-three investors; Bayer and Monsanto have five of their largest six investors in common, etc.

III. THE ANTITRUST ECONOMICS OF COMMON OWNERSHIP

Economists have long theorized that such common ownership of firms by the same investors reduces incentives to compete, compared to a situation in which each firm is controlled by "separate owners" that do not have significant stakes invested in competitors. The logic is simple: The benefit of competing aggressively – gains in market share – comes at the expense of firms in the same industry, and reduces industry profits. A common owner that holds equal shares in all firms can therefore not benefit from aggressive competition. When common owners crowd out separate owners as the most powerful shareholders, firms thus lose owners that support an aggressive competitive strategy.

Whether these predictions are borne out in practice remains an empirical question, given multiple challenges one could think of on theoretical grounds. Giving a clean empirical answer is challenging as well. Recent empirical research addresses these challenges, and has found that market-level increases in common ownership correlate with increased consumer prices in local U.S. airlines and banking markets. Various tests support a causal interpretation of these correlations. In what follows, we review these studies and discuss some of the criticisms levied against them.

IV. EMPIRICAL EVIDENCE

A. The "Airlines Paper"

The first paper to quantify the anti-competitive incentives arising from common ownership, and to test whether they have a measurable impact on competition, is a study by Azar, Schmalz and Tecu of the U.S. airline industry.[5] This paper documents that (1) anti-competitive incentives from common ownership are large – an order of magnitude above what would trigger agency concerns in a standard merger investigation – and (2) airfares are higher, likely in the range of 3-12 percent, due to common ownership.

The paper measures market concentration arising from common ownership using the ownership-modified version of the Herfindahl-Hirschman Index ("HHI") developed by Salop and O'Brien[6] and adopted by regulators worldwide.[7] Like the traditional HHI, this modified HHI ("MHHI") depends on market shares, but unlike the traditional HHI it also depends on the extent the controlling shareholders of a given firm have financial stakes in all the firms in the market. For example, a market with two equally sized firms has an HHI of 5,000. If these two firms are owned by the same set of investors and these investors jointly control the firms, the ownership-modified HHI (MHHI) is 10,000 – reflecting that the two firms will maximize their investors' profits by acting as a monopoly. The gap between the MHHI and the traditional HHI, referred to as the "MHHI delta" measures the extent to which market concentration is due to common ownership alone. (In the example above, the MHHI delta is 10,000 – 5,000 = 5,000.) The MHHI is an attractive index of market concentration as, just like the HHI, it is proportional to the market-share weighted average price-cost margin across the firms in the market under Cournot competition.[8]

Figure 5, taken from the paper, plots the passenger-weighted average HHI and the average MHHI on U.S. airline routes over the last decade. The gap between the MHHI and the HHI, which measures the degree of common ownership, was around 2,000 at the beginning of the period, declined to around 1,000 in 2006-2007, and then increased to about 2,500 in 2014. To put these numbers in perspective, the DoJ/FTC 2010 Horizontal Merger Guidelines state that, in highly concentrated markets (i.e. markets with an HHI greater than 2,500), mergers involving changes in the HHI of more than 200 points are "presumed likely to enhance market power." Thus, the average MHHI delta in the airline industry due to common ownership in 2014 implies a relative increase in concentration relative to HHI that is more than 10 times higher than the threshold that would likely generate antitrust concerns according to the guidelines.

5 Azar, Schmalz, & Tecu, "Anti-Competitive Effects of Common Ownership," available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427345.

6 See Salop & O'Brien, "Competitive Effects of Partial Ownership: Financial Interest and Corporate Control," 67 *Antitrust Law Journal* 559-614 (2000). See also Bresnahan & Salop, "Quantifying the Competitive Effects of Production Joint Ventures," 4 *International Journal of Industrial Organization* 155-175 (1986); Reynolds & Snapp, "The Economic Effects of Partial Acquisitions and Joint Ventures," 4 *International Journal of Industrial Organization* 141 (1986).

7 For example, see Regulation (EEC) No 4064/89, Merger Procedure, Case No IV/M.1383 – *Exxon/Mobil*. The MHHI has also been cited by the European Commission in its review of the *Schneider/Legrand* merger (Case No COMP/M.2283 - *Schneider/Legrand*), and by the Competition Tribunal of South Africa in its review of the *Primedia/Capricorn* merger (Case No: 39/AM/MAY06). In the E.C. Merger Guidelines, it is explicitly stated that "In markets with cross-shareholdings or joint ventures the Commission may use a modified HHI, which takes into account such share-holdings" (see Guidelines on the assessment of horizontal mergers under the Council regulation on the control of concentration between undertakings, 2004/C 31/03, footnote 25, *Official Journal of the European Union* 5.2.2004, C31/5-31/15). The U.S. Merger Guidelines discussion of partial acquisitions does not mention the MHHI directly, but the framework outlining the analysis of partial acquisitions is consistent with the roles of financial interests and degree of influence on which the MHHI is based (see U.S. DoJ and FTC Horizontal Merger Guidelines (August 2010) at Section 13).

8 The HHI is derived from the same model but under the assumption that firms are separately owned. The MHHI can therefore be thought of a generalization of the HHI that allows for different ownership structures.

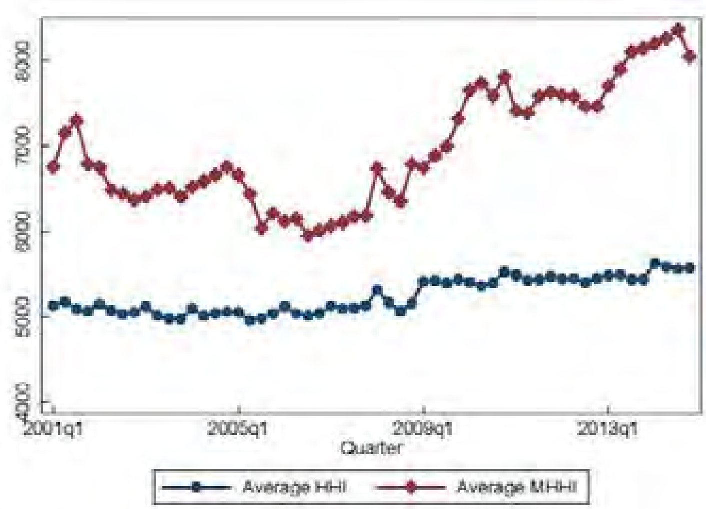

Figure 5: Average HHI and MHHI in the U.S. Airline Industry, Quarterly 2001-2014
Source: Azar, Schmalz and Tecu.

To study whether market concentration due to common ownership has measurable effects on competition, the paper correlates route-level variation over time in the MHHI delta with variation in airfares on the same route. This approach "differences out" route- and carrier-specific time-invariant determinants of price, as well as industry-wide time-varying shocks such as macroeconomic conditions or oil prices. In addition, the regressions control for route-specific time-varying factors that may be correlated with fares as well as the MHHI delta, such as the traditional HHI, the number of non-stop carriers, the presence of low-cost carriers, the share of connecting passengers and market demographics.

There is a legitimate concern that the thus-estimated correlations do not capture a causal effect of common ownership concentration on fares, or at least not an unbiased estimate thereof. For example, it could be that the effect, at least partially, works the other way around, i.e. that changes in fares may induce changes in common ownership concentration; under reasonable assumptions, this would lead to an underestimation of the effect in the baseline analysis. Another concern could be that not all confounding influences are appropriately controlled for, such that the estimate may capture the effect that some other "omitted" factor has on both common ownership concentration and prices.

The paper addresses these concerns by providing a series of additional tests. For example, it shows that passenger volume and common ownership concentration are negatively correlated, which suggests that the positive relationship between common ownership and higher fares cannot be explained by demand shocks that common shareholders may correctly foresee. It also estimates the effect that the increase in common ownership concentration resulting from BlackRock's acquisition of Barclays Global Investors ("BGI") in 2009 had on fares. This acquisition is a helpful "experiment" because the changes in route-level ownership structures implied by the merger were arguably not caused by expected route-level changes in U.S. airfares. Any measured effect must therefore work from increased common ownership to higher fares, rather than the other way around.

The BlackRock/BGI acquisition also illustrates how a merger in the asset management industry may affect competition in the product markets in which the asset managers hold ownership interests. The estimates suggest that the acquisition itself increased average ticket prices by about half a percent.

As the paper discusses, it is likely that the effect operates through multiple complementary channels. For example, unlike undiversified activist investors or founder-entrepreneurs that retain a large stake, mutual funds may simply not push firms to compete aggressively, and managers may consequently enjoy a "quiet life" without aggressive competition. However, common owners can also be directly involved in business decisions under the umbrella of corporate governance engagements, accept executive compensation packages that reward industry performance in addition to individual firm performance, and vote for directors and executives that are likely to consider the common owners' interests.[9] Importantly, as the competition-reducing effects of common ownership are first of all unilateral, the mechanism can be much more subtle than an explicit call for collusion on behalf of investors.

B. Evidence from other Industries

Recent research suggests that the findings generalize to other industries. Azar, Raina and Schmalz provide a study of bank competition in local deposit markets across the U.S.[10] They show that changes in the degree to which banks serving a particular U.S. county are commonly owned correlate positively with changes in account fees and fee thresholds for various deposit products, and negatively with deposit rates. Moreover, a recent multi-industry study by Gutiérrez and Philippon finds that underinvestment relative to investment opportunities in the U.S. is in large part driven by industries with high market concentration and ownership by quasi-indexers, i.e. common ownership.[11]

C. Criticisms

The empirical findings to date have sparked a lot of debate both in academic journals and in the media, and several potential criticisms have been raised. Most critiques give theoretical reasons why one should not expect the anti-competitive effects to materialize in practice, or point to the welfare benefits of diversification for small investors.

Perhaps the main theoretical criticism is the claim that no plausible mechanism exists that could translate the anti-competitive incentives of common ownership into market outcomes. This argument falls short of explaining why, empirically, taking into account shareholders' economic interests does help to explain firms' product market behavior. Moreover, the claim that a mechanism is lacking seems to reflect a misunderstanding of the economic mechanism that we argue can lead to anti-competitive outcomes. As explained above, it is *an absence of incentives to compete (rather than an increased incentive to collude)* that leads to reduced competition under common ownership. It is hard to see why *not* implementing aggressive competition needs a mechanism or could produce measurable traces. The critics stay silent on the question what would make firms compete in the *absence* of a large shareholder or manager with material incentives to do so.

An alternative critique is that an analysis of shareholder's competitive incentives within an industry may be too narrow, as shareholder's interests may extend to upstream or downstream industries. For example, a significant fraction of an airlines' tickets is sold to other corporations, which are likewise partially owned by the airlines' common shareholders, and similarly, the suppliers of jet fuel are owned to a significant extent by the same investment firms. Once this is taken into account, the critics argue shareholders may benefit from increased airline competition because it may increase profits for other corporations they partially own. We agree that these vertical relationships could change the theoretical predictions, although in which direction is open. While raising valid reasons why one may not find an empirical relationship, these arguments do not critique the methodologies employed by the papers finding that common ownership is linked to anti-competitive effects at the industry level.

The main criticism of our empirical methodology seems to be related to the use of the MHHI as an index of common ownership concentration.[12] In what follows, we go over some of the criticisms of the MHHI and offer our response.

- Criticism: The MHHI depends on market shares. Changes in market shares that are unrelated to common ownership may affect the MHHI as well as prices, leading to a spurious correlation between MHHI and prices.

9 A recent news article details the active roles that mutual funds are taking in their portfolio firms more generally, see Flaherty & Kerber (2016), "U.S. lawsuit against activist ValueAct puts mutual funds on alert," Reuters, http://www.reuters.com/article/us-valueact-lawsuit-funds-idUSKCN0X92E6. The "airlines" paper also discusses various potential channels for "direct" engagement.

10 Azar, Raina & Schmalz, "Ultimate Ownership and Bank Competition," available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710252.

11 Gutiérrez & Philippon, "Investment-less Growth: An Empirical Investigation," availabel at: http://www.nber.org/papers/w22897, April 2017 version.

12 Others have also criticized the use of airport-pairs rather than city-pairs as the unit of analysis in the airlines paper. However, the paper shows the results hold up when one uses city-pairs.

This concern is theoretically valid. To test whether it is empirically relevant, the airlines paper's analysis of the BlackRock/Barclays Global Investors acquisition uses changes in the MHHI delta that are by construction not affected by changes in market shares, while also controlling for the HHI before the acquisition.[13] In this set-up, changes in market shares do not affect the independent variables in the estimation, and thus any correlation between them and price cannot be explained by changes in market shares. The airlines paper also does not find an effect of the MHHI delta on price when we calculate the MHHI under the "placebo" assumption that only small shareholders exert control over the firm. This shows that there is no "mechanical effect" of the MHHI delta on price as some critics have feared based on theoretical considerations.

- Criticism: The MHHI is an index calculated from ownership and control rights but not a "raw" measure of common ownership.

It is unclear how this criticism relates to the empirical results. That said, the MHHI takes into account the relative ranking and power of shareholders and the relative sizes of firms, which are sources of variation "raw" measures fail to capture. We therefore prefer the MHHI as a measure that can be derived from economic theory.

- Criticism: The MHHI relies on assumptions regarding the extent to which owners control a firm. It is not clear how ownership maps to control, and whether ownership by investors maps to control in the same way as ownership by other industry participants does.[14]

We agree that the precise relationship between control shares and *de facto* control is not settled; indeed the empirical literature on this question is severely limited. Therefore, the airlines paper shows that results are robust to sensible variations of this assumption. The results remain largely unchanged when only the top 10 or top 5 shareholders are assumed to exert control, or when one uses a Banzhaf index of voting power instead of ownership shares.

V. POLICY IMPLICATIONS

Two implications seem to be clear: In assessments of market concentration, regulators should not only consider the number of firms and their market shares, but also measure to what extent these firms are commonly owned by the same investors. Only to the extent that common ownership is measured can its effects be studied. Second, given that consolidation in the asset management industry is a key contributor to common ownership links, further consolidation in the financial sector should be evaluated with an eye towards potential implications for product (and input) markets of the asset managers' portfolio firms.

A conceptual problem makes it challenging to propose policy actions that are Pareto improving. Disallowing large mutual fund families to offer fully diversified products would have perhaps significant welfare costs. Disallowing large shareholders that hold competitors from exercising their voting rights is problematic as well, as it creates a wedge between cash flow and control rights; in other words, it creates or exacerbates corporate governance problems. These considerations highlight a "trilemma" of the mutually inconsistent goals of product market competition, shareholder diversification and good corporate governance. Given that diversification and good governance primarily serve investor interests, the debate about the balance between these two goals versus the macro-economic and socially desirable properties of efficient product markets has been controversial.[15]

13 An earlier version of the airlines paper controlled for the contemporaneous HHI, which, as O'Brien & Waehrer have pointed out, may be affected by current prices and thus lead to bias in the estimation. Using the HHI before the acquisition addresses this issue.

14 Observers have also noted that, when one assumes control proportional to ownership, the MHHI can make perhaps unintuitive predictions in extreme situations. For example, if a single common owner holds only one percent of each firm in the industry and 10,000 "separate" owners hold equal proportions of the remaining shares of each firm, then the MHHI will be nearly 10,000, implying the firms would act almost as monopoly. This extreme situation does not correspond to realistic patterns in the data, which makes the empirical import of this consideration doubtful. Also, even though the implication may seem unintuitive in this example, it illustrates an important logic that the MHHI reflects but that other measures miss: The control that a given shareholder exerts depends on its ownership share *relative to other shareholders*. Even a shareholder with a small ownership stake in absolute terms may exert a large degree of control if they are the largest shareholder.

15 For example, Novick et al. propose to disregard the studies to date, while Posner et al. propose to limit holdings of large institutions to one firm per industry, or to one percent of the shares of multiple firms in a given industry, see: https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-index-

The policy response to the common ownership problem should also be nuanced for reasons that fall outside the "trilemma" explained above. Some theories predict potential pro-competitive effects of common ownership under specific conditions. For example, recent research proposes a potential positive role of common ownership on innovation in industries with high degrees of technological spillovers, or for customer-supplier relationships.[16]

VI. CONCLUSION

Recent empirical research has uncovered evidence consistent with a negative causal effect of common ownership on competition. Given the potentially momentous implications for antitrust practice, these findings have aroused much attention. Amid that background, it is important to keep in mind that the empirical literature on the anti-competitive effects of common ownership is still in its infancy. The methodologies used are still subject to debate, and changes in methodologies may change the empirical results and therefore some of the conclusions. However, given the extent of common ownership in the present-day U.S. economy and in many other economies abroad, and the continuing trend towards concentration and diversification in the asset management industry, we expect that the debate that the topic has generated in recent years will continue in the future.

investing-and-common-ownership-theories-eng-march.pdf and https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2872754, respectively.

16 López & Vives, "Cross-ownership, R&D Spillovers, and Antitrust Policy," available at: http://blog.iese.edu/xvives/files/2016/05/Lopez-Vives-may-2016.pdf; Freeman, "The Effects of Common Ownership on Customer-Supplier Relationships," available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2873199.

ACTIVE AND PASSIVE INSTITUTIONAL INVESTORS: IS EU COMPETITION LAW READY?

BY MARCO CLAUDIO CORRADI [1] & ANNA TZANAKI [2]

I. INTRODUCTION

Has the antitrust arsenal run out of novel theories or weapons? Think again. Recent scholarship has come to challenge conventional wisdom with the latest target of antitrust imagination being institutional investors, including diversified index funds. New economic research suggests that common ownership of competing industrial firms by large institutional investors leads to potential anticompetitive effects in the form of increased concentration and prices that may be captured by a new generalized HHI measure and have thus far remained undetected under traditional tools and analysis.[3] A number of mechanisms is said to support these anticompetitive effects such as voting,[4] private engagement[5] and compensation contracts.[6]

Reactions have been rapid and widespread. Antitrust enforcers started looking closer at certain industries as well as investigating the scope of their existing powers,[7] while policy makers considered that this might be an area prone to future regulation.[8] In the meantime, legal scholars have come forward

1 Senior Lecturer in Law at Lund University – Faculty of Law; Attorney at Law. I would like to express my gratitude to the Ragnar Söderbergs Stiftelse for a generous research grant on this topic.

2 PhD Candidate at University College London (UCL) Faculty of Laws; Research Fellow at UCL Centre for Law, Economics & Society; Associate Editor at Competition Policy International.

3 Azar, Schmalz & Tecu, *Anti-Competitive Effects of Common Ownership*, (2015) Michigan Ross School of Business Paper No. 1235; Azar, Raina and Schmalz, *Ultimate Ownership and Bank Competition*, (2016).

4 Azar, *Portfolio Diversification, Market Power, and the Theory of the Firm*, (2017) IESE Business School Working Paper No. 1170-E.

5 Fichtner, Heemskerk, & Garcia-Bernardo, *Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk*, (2017) Business and Politics, 1–29.

6 Anton et al., *Common Ownership, Competition, and Top Management Incentives*, (2016) Michigan Ross School of Business Paper No. 1328.

7 Testimony of Assistant Advocate General Baer of the DoJ Antitrust Division, Oversight of the Enforcement of the Antitrust Laws: Hearing Before the Subcommittee on Antitrust, Competition Policy and Consumer Rights (March 9, 2016).

8 US Council of Economic Advisers, Issue Brief: Benefits of Competition and Indicators of

with solutions to the purported antitrust problem, such as enforcement under Section 7 of the Clayton Act,[9] use of the rulemaking authority under Section 5 of the FTC Act[10] and a new antitrust rule specific for institutional investor ownership of direct industrial competitors in concentrated markets.[11] In response, contrasting literature raises skepticism over the above-mentioned economic and legal findings and cautions against implementation of premature policy recommendations.[12] Institutional investors have also expressed their views, in defense of their existing business models.[13]

This fascinating line of research has attracted plenty of attention not only because it is intellectually interesting but also because it carries significant practical implications for capital markets and corporate governance. The finance industry is not a traditional domain for antitrust intervention and, notably, this recent debate takes place in the homeland of free competition, that is, the U.S.

In Europe, by contrast, corporate organization, corporate ownership structures and market realities differ and competition law policy discussion has not been visibly impacted for the time being. While two European Commission consultations focused on potential merger control reforms to address a perceived enforcement gap over non-controlling shareholdings between competitors (cross-ownership) and an ongoing consultation explores extending quantitative (turnover) rather than qualitative (control) thresholds, the issue of common ownership by institutional investors has been prominent in its absence.[14] Only Germany seems to have taken note of the antitrust issue raised across the Atlantic.[15] Surprising as it may be to the casual observer, differences may be explained by reference to the legal, institutional and historical context of U.S. and EU antitrust and corporate law driving the two to opposite directions.

This essay aims to disentangle the complex issues surrounding common ownership by institutional investors, and suggest a holistic approach that brings together the corporate with the competition law aspects of the problem. Accordingly, the analysis first sheds light on the corporate governance dimensions (Part II). Next, it outlines the theories of harms that correspond to the distinct forms and levels of shareholder activism or passivity (Part III). It then revisits the existing legal and policy antitrust framework and compares the EU versus the U.S. experience (Part IV). Finally, it wraps up the discussion with some concluding remarks on the EU competition law outlook (Part V).

II. CORPORATE GOVERNANCE DIMENSIONS - LOOKING FOR THE BIGGER PICTURE

The last decades have witnessed revolutionary changes in the ownership structure and governance of large corporations. Also from a corporate governance perspective, institutional investors are now at the core of a renewed and exciting debate.[16] In the U.S., the Berle

Market Power, 13–14 (April 14, 2016).

9 Elhauge, *Horizontal Shareholding*, (2016) 129 Harvard Law Review 1267-1317.

10 Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, (2016) 129(5) Harvard Law Review Forum 212–232.

11 Posner, Scott Morton, & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, (2016) Antitrust Law Journal, Forthcoming.

12 Rock & Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance*, (2017) NYU Law and Economics Research Paper No. 17-05; O'Brien & Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think*, (2017); Woodbury, *Review of "Anti-Competitive Effects of Common Ownership"*, (December 2014) ABA – The Antitrust Source, Paper Trail; Woodbury, *Review of "Ultimate Ownership and Bank Competition"*, (June 2016) ABA – The Antitrust Source, Paper Trail; Patel, *Common Ownership, Institutional Investors, and Antitrust*, (2017) Antitrust Law Journal, Forthcoming.

13 BlackRock, 'Index Investing and Common Ownership Theories,' Public Policy Viewpoints (March 29, 2017).

14 See the 2013 and 2014 consultations entitled "Towards more effective EU merger control," and the 2017 consultation on "Evaluation of procedural and jurisdictional aspects of EU merger control," including comments received and policy documents.

15 "Hauptgutachten XXI: Wettbewerb 2016" - Biennial Report of the Monopolies Commission under § 44(1) ARC, Chapter III (September 20, 2016); Wambach and Weche, *Gefährden Institutionelle Anleger den Wettbewerb?* (2016) 96(12) Wirtschaftsdienst 900–904.

16 For the economics debate see Heineman & Davis, *Are Institutional Investors Part of the Problem or Part of the Solution?*, (Yale School of Management

and Means' model[17] of dispersed ownership has been eroded by the emergence of private equity[18] on one hand and of the so-called parallel "horizontal shareholding" by indexed funds on the other hand.[19] Moreover, hedge funds have often reverted to "morphable ownership" strategies, pursuing new ways of influencing corporate boards without or with little stable equity ownership.[20] These new forms of ownership have enriched the classic binary taxonomy based on the distinction between concentrated and dispersed ownership.[21] They have also shown that the "classic" ways to analyze institutional investors' involvement in corporate governance have to be rethought.[22] The old agency costs framework was complicated by the emergence of a new economic agency relationship, the one between record-holders and beneficiary owners, to be added to the traditional one between shareholders and directors.[23] The tension between record-holders' preference for cheaper exit strategies and beneficiary owners' interest in value enhancing but expensive voice strategies brought to the scene "rationally reticent" behaviors by institutional investors.[24]

The picture in Europe is somewhat different. With the notable examples of the UK and Ireland and despite signs of dispersion trends in Germany,[25] concentrated ownership can still be considered as the prevailing model in most EU Member States' corporate environments.[26] Nevertheless, the U.S. debate on the role of institutional investors in corporate governance has reached the European legal and business community with similar intensity – also affecting corporate governance soft law making. Promotion of stewardship as an effective means of containing different sets of agency costs emerged as the new leitmotif in European corporate governance music.[27] And it goes without saying that in a concentrated ownership environment, where exit is not always effective, voice by institutional investors may become an efficient way to contain agency costs.[28] When it comes to activism, it might sound however slightly disappointing that the stewardship wind of change blowing on the European corporate governance landscape could not feel as refreshing as expected. Not even the Shareholders' Rights Directive, which is presently undergoing substantial reform, seems to have significantly increased voice in terms of exercise of minority rights.[29] Therefore, apart from the cited "rationality reticent activism," the core activism modality by institutional investors often tends to stick to old practices.

2011); Gilson & Gordon, *The Agency Costs of Agency Capitalism Activist Investors and the Revaluation of Governance Rights*, (2003) 113 Columbia Law Review 863-928.

17 Berle & Means, *The Modern Corporation and Private Property* (Transaction Publishers 1932).

18 Armour & Cheffins, *The Eclipse of Private Equity*, (2008) 33 Delaware Journal of Corporate Law 2-65.

19 Elhauge, supra note 9. From a governance perspective, see Gilson & Gordon, supra note 16.

20 Hu & Black, *Hedge Funds, Insiders, and the Decoupling of Economic and Voting Ownership: Empty Voting and Hidden (Morphable) Ownership*, (2007) 13 Journal of Corporate Finance 343-367.

21 This debate has been particularly relevant for the European economic environment, which provides examples of both dispersed and concentrated ownership. See Barca & Becht (eds), *The Control of Corporate Europe* (OUP 2001); Faccio & Lang, *The Ultimate Ownership of Western European Corporations*, (2002) 65 Journal of Financial Economics 365-395. For a dynamic analysis of the 'dispersion' that took place in the UK, see Cheffins, *Corporate Ownership and Control: British Business Transformed* (OUP 2008).

22 For seminal ideas on institutional investors' activism see Rock, *The Logic and (Uncertain) Significance of Institutional Shareholder Activism*, (1990) 79 Georgetown Law Journal 445-506; Black, *Agents Watching Agents: The Promise of Institutional Investor Voice*, (1992) 39 UCLA Law Review 811-893.

23 Gilson & Gordon, supra note 16.

24 Id.

25 Ringe, *Changing Law and Ownership Patterns in Germany: Corporate Governance and The Erosion of Deutschland AG*, (2015) 63(2) American Journal of Comparative Law 493-538.

26 Barca & Becht, supra note 21.

27 Kraakman et al., *The Anatomy of Corporate Law* (OUP 2004) Ch 2.

28 As when corporate control is not contestable, equity price drops due to exit may not expose controllers to takeovers.

29 Proposal for a Directive of the European Parliament and of the Council amending Directive 2007/36/EC as regards the encouragement of long-term shareholder engagement and Directive 2013/34/EU as regards certain elements of the corporate governance statement COM/2014/0213 final - 2014/0121 (COD). See also Pacces, *Hedge Fund Activism and the Revision of the Shareholder Rights Directive*, (2017) European Corporate Governance Institute - Law Working Paper No. 353/2017.

Besides hedge funds activism,[30] there is a full set of "behind-the-scenes" behaviors that, albeit prominent in the corporate governance literature since the 1990s and in empirical research still today, have received little attention by antitrust lawyers.[31] Institutional investors' engagement with management has traditionally included activities such as one-to-one meetings with senior management, site visits to plants and at least one yearly presentation providing a full update on current trading and strategic thinking.[32] In some well-documented cases, it has gone as far as influencing corporate strategy on very important issues such as new acquisitions.[33] As a temporary conclusion, the present corporate governance debate acknowledges the centrality of behind-the-scenes activism. Such form of activism is not accounted for in the EU Merger Reform White Paper,[34] which focused on minority shareholders' rights and especially on veto rights. Nevertheless, from an antitrust perspective, it looks like an important and overlooked variable, in-between passivity and activism but interestingly projecting on passive investment strategies. As such, it deserves some further consideration when considering old theories of harm associated with non-controlling financial holdings and their potential application to institutional investors.

III. ANTITRUST THEORIES OF HARM – RETHINKING THE TRADITIONAL FRAMEWORK

Traditional literature on the anticompetitive effects of financial holdings deals with corporate investment strategies. These strategies differ structurally and substantially from equity acquisitions by institutional investors. Equity investments of a corporation in a competitor may be justified on grounds of efficiency. For instance, they can be explained by lower transaction and information costs or by strategies aimed at hedging hold-up costs deriving from long-term contractual relationships such as joint ventures.[35] As regards theories of harm, the distinction between unilateral versus coordinated effects was conceived for analyzing a specific set of cases, i.e. corporate investments. In the case of corporate investments, this distinction may be difficult to apply to certain grey areas without engaging in a "dynamic" analysis.[36] For instance, equity purchases may start as a mere passive investment and end up constituting valuable coordination tools through information exchanges. When such information flows are made through informal channels (e.g. not through independent directors appointed in the investee/competitor) the subject of communication may be difficult to prove. More generally, economists usually focus on financial (dis)-incentives, whereas lawyers' attention is usually caught by behavioral patterns and hard evidence. Despite the different emphasis in approach to analyzing anticompetitive holdings, these theories may combine and therefore constitute a continuum of practices and anticompetitive effects – and this is actually an important point to consider when dealing with institutional investors holistically. Trying to map an already complex and at times controversial analysis onto equity purchases by institutional investors may encounter some meaningful obstacles.

When we analyze institutional investors' investments, we may recognize *some* situations that look *similar* to the ones depicted in corporate investment literature – along with cases that have little to do with that analysis. The nature of the activity exercised by an institutional investor consists of identifying target investees (corporations) that will produce the optimal return risk for those who invest in funds. To some extent, investment funds may be neutral in respect of the way their investees earn through their activity. Institutional investors *might* benefit from their investees' restricting competition *if* they are able to appropriate a share of the anticompetitive activity. For this to happen, there must be good synchrony between the timing of the investment and that in which

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30 Kahan & Rock, *Hedge Funds in Corporate Governance and Corporate Control*, (2007) 155 University of Pennsylvania Law Review 1021-1093; Cheffins & Armour, *The Past, Present, and Future of Shareholder Activism by Hedge Funds*, (2016) 37 Journal of Corporation Law 51-103.

31 McCahery, Sautner, & Starks, *Behind The Scenes: The Corporate Governance Preferences of Institutional Investors*, (2016) 71(6) The Journal of Finance 2905-2932.

32 Stapledon, *Institutional investors and corporate governance*, (1996).

33 Id, 105.

34 White Paper 'Towards More Effective EU Merger Control,' Brussels (July 9, 2014), COM(2014) 449 final.

35 Ezrachi & Gilo, *EC Competition Law and the Regulation of Passive Investments Among Competitors*, (2006) 26 Oxford Journal of Legal Studies, 327-349, 328.

36 Discussion on how non-controlling financial holdings may produce unilateral or coordinated effects can be read in detail in some of the seminal articles by both legal and economics scholars. See an overview in Corradi, *Bridging the Gap in the Shifting Sands of Non-controlling Financial Holdings?*, (2016) 39(2) World Competition 239-265.

restrictions of competition produce profits.[37] For instance, a short-term investment strategy may not be capable of reaping the anticompetitive profits of a cartel, which starts at the time when the investment fund purchases its equity stake in the corporation which participates in the cartel.

Investment strategies may be extremely diversified and they may combine in several ways. In some cases one may encounter scenarios of the kind described by Gilo, whereby a parent company invests in a competitor of one of its subsidiaries.[38] This might occur in the case of a private equity fund which has brought a given company private and subsequently acquires a non-controlling equity stake in a competitor of its fully controlled company.[39] Nevertheless the control variable is likely to be absent in most institutional investor cases. This notwithstanding, when institutional investors coalesce in so-called wolf packs, in the face of ownership dispersion there may be temporary situations in which investors' voice gets very strong with a temporary degree of influence close to control.[40]

In terms of investment strategies, at the opposite pole of the spectrum of private equity, we find those described by Azar and others,[41] whereby the largest mutual funds simultaneously invest in the top companies of a given industry. Here the original and paradigm shifting "unilateral effects" analysis by Azar and others meets the comprehensive explanation provided by Elhauge, who identifies a previously unexplored set of new connections between antitrust and corporate law variables.[42] Unilateral effects of passive investment by institutional investors seem to be the perfect matching for corporate governance strategies which remunerate directors on a market performance basis and which often see institutional investors not taking necessary action in proxy contests against inefficient directors.[43]

Fitchner and others take the analysis a step further suggesting that institutional investors' engagement with management adds new perspectives on the passive investment/unilateral effects centered theory.[44] If we consider that in the beginning of the 1990s, institutional investors started setting up in-house research for collecting and processing highly business sensitive information on their targets, our perception of behind-the-scenes activism may change. Well-informed institutional investors have also proved able to *coalesce* in absolute discretion – "behind the scenes" – for the purpose of removing poorly performing directors.[45] Institutional investors' preference for behind-the-scenes action can be perceived like an invisible thread, which used to characterize and still distinguishes nowadays activism by institutional investors. Hence, these practices seem to provide a very wide set of situations to explore from an antitrust perspective.

The way activism manifests (the structural aspect) must be kept separate from the content of the information acquired (and potentially exchanged) by institutional investors in this context. One can imagine here at least two scenarios involving the processing of information obtained by institutional investors behind the scenes. In case the performance of the fund highly depends on the set of information it acquires from corporate management, each institutional investor may be discouraged from revealing it to its competitors. Nevertheless, where long-term investment strategies look homogeneous within the finance industry – as for index funds, then there is little reason why this information could not be exchanged. Clear evidence lacks with reference to a system of information exchange that may entail a breach of competition law. Nevertheless, the situation highlighted here adds some further anticompetitive variables to Azar and others' hypothesis.

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37 Corradi & Nowag, *The Anticompetitive Investment*, (Lund University Working Papers in Competition Law n.1, 2017).

38 Gilo, *The Anticompetitive Effect of Passive Investment*, (2000) 99(1) Michigan Law Review 1-47, 22 ff.

39 Hale & Travers, *Private Equity: A Transactional Analysis* (Globe Law and Business 2015).

40 Brav, Dasgupta & Mathews, *Wolf Pack Activism*, (2017) European Corporate Governance Institute - Finance Working Paper No. 501/2017; Briggs, 'Corporate Governance and The New Hedge Fund Activism: An Empirical Analysis' (2006) 32 Journal of Corporation Law 681-737.

41 Azar, Schmalz & Tecu, supra note 3.

42 Elhauge, supra note 9.

43 Id.

44 Fichtner, Heemskerk, & Garcia-Bernardo, supra note 5.

45 Stapledon, supra note 32, 127.

IV. U.S. VERSUS EU LAW AND POLICY – THE TRANSATLANTIC DIVIDE

One key area where U.S. antitrust and EU competition law differ considerably is in their respective treatment of partial ownership interests and acquisitions in competitors.[46] As a general matter, U.S. law is broader in scope and instruments and more flexible in its application whereas EU law has been more limited and rigid since the outset. The paradigmatic case of this transatlantic divide is joint ventures.[47] The basic legal principles applicable to industrial firms with direct or indirect holdings in horizontal or vertical competitors may also be extended to the case of common ownership by institutional investors, albeit with notable limitations in the EU context.

U.S. merger control is open-ended, dynamic and relies on an "effects" test. Any partial acquisition that "may be substantially to lessen competition" is prohibited under Section 7 of the Clayton Act.[48] Effectively, jurisdiction and substantive review under U.S. merger control is not contingent on notions of control or the level of shareholding but on the existence of probable and appreciable anticompetitive effects.[49] Only acquisitions made "solely for investment" may escape liability. Non-controlling shareholdings do not fall within this safe harbor unless the acquiring (institutional) investor is completely passive (i.e. no working control or influence over the target and no access to commercially sensitive information) *and* no actual anticompetitive effects resulting from the shareholding can be shown.[50] Under the Hart-Scott-Rodino Act, acquisitions of voting securities are subject to a filing obligation based on a size-of-person and/or a size-of-transaction test.[51] Purely "passive investors" acquiring holdings of 10 percent or less,[52] and "institutional investors" holding 15 percent or less, are exempt from notification requirements. An investment fund qualifies as an "institutional investor" if it buys the stock in the ordinary course of business and "*solely* for investment" purposes, is not a competitor of the issuer, and does not include any entity that is not an "institutional investor" and that holds voting securities of the target issuer.[53] Recent enforcement actions against activist investors, such as hedge funds, have confirmed that the filing exemption is narrowly interpreted and, crucially, may not necessarily benefit institutional investors, traditionally considered passive but who cooperate with activists or actively engage with management in practice.[54] The latter will also need to notify any increase of their shareholdings following any activism practices.

EU merger law relies on a "control" test (decisive influence), which does not necessarily correspond to economic control (lower levels or other forms of influence) or to the competition effects (unilateral or coordinated) resulting from a combination of assets or interests of competing undertakings.[55] Under the EU Merger Regulation,[56] the Commission has exclusive jurisdiction to review "concentrations" with an EU dimension, i.e. mergers and acquisitions that entail a lasting change of control and meet certain turnover

46 For the antitrust treatment of minority shareholdings and partial acquisitions in the EU and the U.S., see 1(1) CPI Antitrust Chronicle (January 2012).

47 Brodley, *Joint Ventures and Antitrust Policy*, (1982) 95 Harvard Law Review 1521–1590; Morais, *Joint Ventures and EU Competition Law* (Hart Publishing 2013).

48 15 U.S.C. § 18.

49 For the US legal position on partial stock acquisitions, see Areeda & Hovenkamp, *5 Antitrust Law: An Analysis of Antitrust Principles and Their Application* 283–301 (3rd ed. 2009). On their economic analysis, see US DOJ/ FTC Horizontal Merger Guidelines 2010 § 13.

50 Elhauge, supra note 9, (suggesting there is a higher standard of proof for passive investment, compared to active investment); Gilo, supra note 38, (suggesting there is a *de facto* exemption for passive investment given the difficulties to prove actual effects).

51 15 U.S.C. § 18a.

52 16 C.F.R. § 801.1(i)(1) and 802.9.

53 16 C.F.R. § 802.64.

54 Feinstein, Libby & Lee, *"Investment-Only" Means Just That*, FTC Competition Matters (August 24, 2015); Golden, *Does ValueAct Have Implications for Institutional Shareholders?*, Harvard Law School Forum on Corporate Governance and Financial Regulation, (April 7, 2016). Any intention to influence business decisions or participate in management or nominate board members and possibly engaging with corporate management or other shareholders regarding such matters is incompatible with the "passive investor" exemption. However, merely voting the acquired stock in relation to other matters does not negate the filing exemption. The recent ValueAct settlement is important because it suggests that internal discussions may be evidence of "active" intent.

55 Germany, Austria and the UK have broader merger statutes under domestic law.

56 Council Regulation (EC) No 139/2004 of 20 January 2004 on the Control of Concentrations Between Undertakings [2004] OJ L 24/1.

thresholds.[57] Control may be established on a *de jure* or *de facto* basis.[58] Acquisitions of securities by financial institutions in the course of their normal activities and on a temporary basis, or by "financial holding companies," which exercise their voting rights only to maintain the value of the investment and not to determine, directly or indirectly, the strategic or competitive conduct of the partially acquired undertakings, are not deemed concentrations.[59] These exceptions however do not apply to "typical investment funds" that vote or adopt decisions to appoint management and board members or to even restructure the undertakings concerned.[60] Non-controlling shareholdings fall outside the EU merger control framework unless they are pre-existing at the time of another notifiable acquisition, or they are part of a series of transactions qualifying as a "single concentration."[61] It follows that any holdings acquired by institutional investors, active or passive, which do not confer sole or joint control are immune under the EUMR.

Besides, U.S. antitrust law provides further means of enforcement against parallel horizontal shareholdings by institutional investors. In specific, "purely passive investment that lessened competitive incentives in a way that was likely to produce anticompetitive effects" may also be reviewed under: Section 1 of the Sherman Act as a "combination or agreement" that unreasonably restrains trade, or as a "facilitating agreement or practice" if likely to support oligopolistic coordination;[62] Section 5 of the FTC Act as an "unfair trade practice"; and possibly, Section 2 of the Sherman Act as a "monopolization (or attempted monopolization) practice" if the firms collectively possessed monopoly power.[63]

In theory, EU antitrust law provides similar possibilities under Articles 101 and 102 of the Treaty on the Functioning of the European Union ("TFEU") prohibiting agreements restrictive of competition and abuse of a dominant position respectively. Indeed, there are cases where these provisions have been used to prosecute acquisitions of non-controlling shareholdings between competitors.[64] However, Article 101 TFEU is unable to capture any unilateral effects of passive investment,[65] and cannot address tacit collusion either.[66] In addition, enforcement in this area has been limited or non-existent[67] ever since the enactment of the EUMR.[68] In light of

57 Articles 1 and 3 of the EUMR. Such concentrations must be notified prior to completion.

58 On the basis of rights (e.g. voting, management, veto) or contracts (e.g. long-term), or given the surrounding factual circumstances (e.g. dispersion of shareholder base, historic voting patterns and participation at annual meetings).

59 Article 3(5) of the EUMR.

60 Commission Consolidated Jurisdictional Notice under Council Regulation 139/2004 on the control of concentrations between undertakings [2008] OJ C 95/1, para 115. Acquisitions by investment funds (e.g. venture capital or private equity) are analyzed on a case-by-case basis (see paras 14-15). These transactions are notified under a simplified procedure provided the investors do not have controlling interests in competitors; but there are also cases where substantive concerns have led to a Phase II prohibition. See Bellamy & Child, European Union Law of Competition, para 8.019 (Bailey & Rose eds., 7th ed. 2013).

61 Tzanaki, *The Legal Treatment of Minority Shareholdings Under EU Competition Law: Present and Future*, in University of Piraeus - Essays in Honour of Professor Panayiotis I. Kanellopoulos (Sakkoulas Publications 2015), 861–886.

62 This is not to deny the additional evidentiary challenges in establishing a Section 1 Sherman Act antitrust violation, which requires evidence of "agreement" (e.g. on a common investment plan) or at the very least communication (e.g. knowing exchange of strategic information from which agreement may be inferred). In other words, common ownership or parallel shareholdings by institutional investors without more, even if giving rise to potential anticompetitive effects, is not sufficient proof. A common investor-owner may facilitate agreement between direct competitors under a "hub-and-spoke" conspiracy theory in which case vertical agreements between the investor and the companies as well as horizontal agreements between the competitors must be established. See Karp, *Antitrust Executive Order and Common Ownership*, Harvard Law School Forum on Corporate Governance and Financial Regulation (May 24, 2016); Rock & Rubinfeld, supra note 12, 24; Patel, supra note 12, 65; Reed, *Private Equity Partial Acquisitions: Towards a New Antitrust Paradigm*, (2010) 5(2) Virginia Law and Business Review 303–348, 342.

63 Elhauge, *United States Antitrust Law and Economics* (Foundation Press 2011), 589–590; Elhauge, supra note 9, 1308.

64 Joined Cases 142 and 156/84, *BAT and Reynolds v. Commission* [1987] ECR 4487 ("*Philip Morris*"); Cases IV/33.440, *Warner-Lambert/Gilette* and IV/33.486, *BIC/Gillette* [1993] OJ L 116/21 ("*Gillette*").

65 Ezrachi & Gilo, supra note 35, 340–342.

66 González-Díaz, *Minority Shareholdings and Creeping Acquisitions: The European Union Approach*, in Fordham Competition Law Institute 2011, 471–472 (ed. Barry E. Hawk, 2012).

67 Especially after the modernization of the EU antitrust system in 2003.

68 Reynolds & Anderson, *Acquisitions of Minority Interests in Competitors: The EU Perspective*, American Bar Association, Section of Antitrust Law Spring

this, it is all the more dubious whether EU antitrust law has real bite against institutional investors.

The origins of these doctrinal and enforcement differences may be traced in the historical and policy underpinnings of the U.S. and the EU regimes. In the U.S., federal antitrust law was introduced to discipline state corporate law competition authorizing the establishment of trusts or interstate holding companies to facilitate monopoly;[69] in the EU, competition policy was driven by the impetus for internal market integration, and antitrust law explicitly carved out, total or partial, corporate combinations and share acquisitions from its purview.[70] In short, anticompetitive holding structures were the source of U.S. antitrust whereas they were beyond reach under EU competition law until the introduction of the EUMR. That foundational deficit of the EU law is still with us today to a certain extent as described above.

V. CONCLUSION – SHOULD EUROPE MOVE UP A GEAR?

In the brave new world of increasing common ownership by large and long-term institutional investors and its intersection with antitrust, we encounter some odd phenomena. U.S. law is potentially more interventionist and prophylactic, yet more flexible in its approach. For instance, U.S. merger control primarily focuses on anticompetitive effects and activism practices, even via informal channels, rather than an *a priori* definition of the type of investor as passive or active. Traditionally, EU law is more conservative in its economic predictions while more formalistic from a legal point of view. In particular, EU antitrust law and enforcement faces significant challenges in dealing with hybrid forms of ownership or financial structures: merger control analysis depends on the legal notion of decisive influence and heavily relies on explicit shareholders' rights rather than invisible forms of activism or coalitions whereas non-controlling financial holdings by either active or passive institutional investors are generally out of reach. Therefore, albeit theoretically somewhat equipped, EU law is found lacking practical antitrust weapons against parallel horizontal shareholding structures by institutional investors.

At the same time, however, the European economic market context and corporate environment may differ considerably from the U.S. setup, which may also mean that common ownership by diversified institutional investors or passive index funds may be less of a concern in Europe to begin with. In this regard, it is worth exploring the real extent of the problem in Europe in terms of prevailing ownership structures, forms of activism practiced by institutional investors and the proportion of institutional shareholding compared to other investment strategies. Besides fully theorizing the causality of antitrust concerns arising from institutional investor ownership of direct industrial competitors, one needs to establish its significance in terms of anticompetitive effects from an empirical perspective in the European context too before any firm conclusions are drawn. Ultimately, it is suggested that in order to decide whether a potential antitrust problem exists also in Europe and whether further regulatory action is desirable, one needs to carry out a deeper law and economics analysis that takes a holistic view of both the corporate and competition aspects of institutional common ownership across the EU.

Meeting (March 31, 2005).

69 Roe, *Delaware's Competition*, (2003) 117(2) Harvard Law Review 588–646, 607–610.

70 Memorandum on The Problem of Industrial Concentration in the Common Market, Commission, Competition Series No. 3 (1966). Article 101 TFEU could capture any post-acquisition coordination between independent undertakings but not the agreement for the ownership transfer as such.

CAN INSTITUTIONAL INVESTORS SOFTEN DOWNSTREAM PRODUCT MARKET COMPETITION?

BY JOHN R. WOODBURY[1]

I. INTRODUCTION

Developments in antitrust theory and practice have occurred more or less incrementally. The obvious examples include advances in the modeling and implementation of mergers in differentiated product industries and in auction theory; much of this is due to advances in and appreciation of game theory. Indeed, the typical Bertrand model now routinely used in merger simulations was introduced in the early 19th century. There have been some significant inflection points in antitrust thinking that quickened the pace of intellectual, policy and enforcement changes. These include, in the 1970s and 1980s, the "New Learning" associated with the Chicago School highlighting the shortcomings of relying solely or largely on the level of and changes in concentration for evaluating mergers. That New Learning resulted in significant changes in the Horizontal Merger Guidelines as well as an appreciation of the benefits of vertical relationships building upon the work of Ronald Coase, relationships that had been viewed as almost *per se* illegal. And there was the subsequent and inevitable pushback with "Newer Learning" (Post-Chicago antitrust) that highlighted the potential risk of exclusionary behavior by firms with market power, and questioned the need for market definition with advances in the modeling of competition or possession of direct evidence of that power.

Recently, a number of papers — one by Azar, Schmalz and Tecu, considering the airline industry, and another by Azar, Raina and Schmalz, considering the banking industry — have perhaps uncovered a surprising and unexpected source of heightened market power: the common ownership by third-party institutional investors of rival firms in various markets.[2]

1 Consultant, Charles River Associates. The views expressed here are solely my own and not those of Charles River Associates or my colleagues at Charles River Associates.

2 Azar, Schmalz & Tecu, *Anticompetitive Effects of Common Ownership* (March 23, 2017) (hereinafter Azar et al. (A) or airline paper), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427345; Azar, Raina & Schmalz, *Ultimate Ownership and Bank Competition* (July 23, 2016) (hereinafter, Azar et al. (B) or banking paper), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710252. While using common ownership metrics that are not derived from a market power perspective nor focused on the price effects of common ownership, a recent paper concludes that common ownership improves product strategy coordination among the commonly-owned firms, resulting in (among other things) higher market shares and profitability of those firms. See He & Huang, *Product Market*

The Azar et al. papers are motivated by the increase in the ownership stakes of institutional investors in firms in many industries. Azar et al. observe that institutional investors now account for 70-80 percent of all the stock in publicly traded companies. Further, the same four institutional investors (Berkshire Hathaway, BlackRock, Vanguard and JP Morgan) have financial interests in Delta, Southwest, American and United Continental. Similarly, the same four institutional investors are among the top six shareholders of three of the largest banks (J.P. Morgan Chase, Bank of America, and Citigroup). More generally, Baker cites research that large institutional investors "collectively own roughly two-thirds of the shares of publicly traded U.S. firms overall, up from about one-third in 1980."[3]

The Azar et al. papers suggest that such common ownership by these investors provides an incentive for the firm's managers not to maximize the profits of the firm but rather the profits of the institutional investors across all of their holdings in it and rival firms. In taking into account the profits of the rival firms that accrue to its institutional investors (in line with their financial interest in those rivals), competition will be harmed: The managers of the firm will somehow understand that adopting strategies that reduce the profits of its rivals also reduce the profits that would accrue to the institutional investors. As a result, the managers will temper their rivalry with competitors to account for the effects of that rivalry on the returns to institutional investors and so consumer prices will increase, an outcome seemingly confirmed by those recent papers.

One highly-regarded antitrust scholar in particular has labeled these findings as a "blockbuster" for antitrust analyses and enforcement policy.[4] Three respected academics in a New York Times opinion piece characterized these findings in the following way: "The great, but mostly unknown, antitrust story of our time is the astonishing rise of the institutional investor — …that buys stock in substantial quantities for the benefit of clients and customers — and the challenge that it poses to market competition."[5] Others have some (or many) reservations about relying now on these findings as a basis for a substantial if not radical change in antitrust policy. "Not so fast," they say.

II. BACKGROUND

Building on earlier work, O'Brien and Salop developed a metric to consider the competitive effects of firms holding financial interests in rivals: a Modified Herfindahl-Hirschman Index ("MHHI") which consists of the usual HHI plus a term (the MHHI Delta) that reflects the cross-ownership patterns of the firms in a particular market.[6] Each firm maximizes its own profit after accounting for the effect of its actions on the profits of the other investing firms.

The Azar et al. papers extend the MHHI to common ownership of rival firms by institutional investors. The underlying theory is straightforward. To borrow an example from Rock and Rubinfeld,[7] suppose a third party like Warren Buffet owned 51 percent of the shares of Firm A, giving Buffet effective control over that firm. Then the firm would continue to maximize its own profits, with Buffet

Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings (January 2016) (forthcoming REVIEW OF FINANCIAL STUDIES), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2380426. This study focused on effects across all four-digit SIC industries within a single statistical analysis raising issues of both the correct market definition and the effects of failing to account for characteristics that differ across so many industries. With not much basis, the paper (at 6-7) dismisses any anticompetitive explanation for the results reported in the paper. At face value, the paper is in fact consistent with the Azar et al. findings.

3 Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, Harvard Law Review (2016) (hereinafter, Baker) at 212, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2746874.

4 Elhauge, *Horizontal Shareholding*, Harvard Law Review (2016) (hereinafter, Elhauge) at 1267, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2632024.

5 Posner, Scott Morton and Weyl, *A Monopoly Donald Trump Can Pop*, New York Times (December 7, 2016), available at: https://www.nytimes.com/2016/12/07/opinion/a-monopoly-donald-trump-can-pop.html?_r=0.

6 O'Brien & Salop, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, ANTITRUST LAW JOURNAL (2000) (hereinafter, O'Brien and Salop), 559-614.

7 Rock & Rubinfeld, *Defusing the Antitrust Threat to Institutional Investment in Corporate Governance* (March 2017) (hereinafter, Rock and Rubinfeld) at 3, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2925855.

sharing in those profits via his financial interest. Now suppose that Buffet acquires a 51 percent interest in rival Firm B. The manager of each firm will realize that an aggressive strategy towards its rivals will generate some losses to Buffet and so will temper such a strategy. Indeed, given that by assumption Buffet has effective control over both firms, the effect of the common ownership in this example is tantamount to coordinating the pricing of both firms (although Buffet's ownership and control fall short of a merger since there is no physical combination of the two firms and hence none of the typical efficiencies associated with mergers).[8] And this would occur without any changes in the HHI.

The profit calculus for each firm's manager becomes more complicated as the number of third-party investors increases. One scenario in O'Brien and Salop used by Azar et al. in calculating the MHHI assumes that the firm manager maximizes the weighted average profits of all of its third-party investors, accounting for the interests of those investors in the firm. The weights will depend on (among other things) the control or influence each investor has with respect to its portfolio of rivals, the magnitude of the financial interest in those firms, and the market shares of those firms. As noted, these possibly anticompetitive ownership patterns can emerge without any apparent change in the HHI. In failing to account for the common ownership stakes of institutional investors, the HHI alone would overstate the extent of competition in any particular industry.

III. ESTIMATING THE COMPETITIVE EFFECTS OF COMMON OWNERSHIP

Having established the extensive common ownership patterns in both banking and airline markets, Azar et al. estimate separately the effects of the HHI and the MHHI Delta on airline pricing. The banking paper estimates the effect of the MHHI (without distinguishing between the HHI and the MHHI Delta) on interest rates on checking accounts and money market funds, monthly money market and checking account fees, and money market and checking account balance thresholds below which additional fees must be paid. With respect to the airline industry and in analyses that account for some reverse causality (discussed below), Azar et al. find that increases in the MHHI Delta raise airline fares on the order of 10-12 percent higher than would be the case if there were no common ownership by institutional investors of the airlines.[9]

With respect to the banking industry, Azar et al. find that for interest-bearing checking accounts, a one standard deviation increase in the MHHI (about 1500 points according to my calculations) leads to about an 11 percent increase in fees and an increase of about 17 percent in account thresholds.[10] With respect to money market accounts, the increase in the MHHI results in a 3 percent increase in fees and a nearly 17 percent increase in account thresholds.

The conclusion that common ownership by institutional investors can generate anticompetitive harm has already generated changes in enforcement policy. In its investigation of the airline industry, the Department of Justice ("DoJ") had been assessing the extent to which communications between the airlines and the large institutional stakeholders fostered or facilitated fare or capacity collusion.[11] Indeed, the Obama-appointed Assistant Attorney General for Antitrust at the DoJ told a Senate committee that the Antitrust Division is investigating common ownership "in more than one industry."[12] And apparently, the European Commission has relied on the MHHI to gauge the effects of common ownership.[13] A trio of respected academics has proposed a very detailed and

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8 While a 51 percent holding of the outstanding stock of the two firms is sufficient to provide Buffet with control, the fraction of shares actually required for control may be significantly less than 51 percent if stock ownership is widely dispersed and the remaining shareholders are unable to effectively block the actions of the larger shareholder.

9 It is not obvious that the right benchmark is *no* common ownership by institutional investors.

10 With respect to the banking study, Azar et al. use what they refer to as a "Generalized HHI" that accounts for investment holdings by Bank A in another Bank B, C and so on. For ease of exposition, I continue to use the MHHI nomenclature.

11 McLaughlin & Schlangenstein, *U.S. Looks at Airline Investors for Evidence of Fare Collusion*, Bloomberg.com (September 22, 1915), available at: https://www.bloomberg.com/news/articles/2015-09-22/do-airfares-rise-when-carriers-have-same-investors-u-s-asks.

12 Nigro, Jr., *Cross-Ownership by Institutional Investors*, Harvard Law School Forum on Corporate Governance and Financial Regulation (March 31, 2016), available at: https://corpgov.law.harvard.edu/2016/03/31/cross-ownership-by-institutional-investors/.

13 O'Brien & Waehrer, *The Competitive Effects of Common Ownership: We Know Less Than We Think* (February 2017), note 5, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2925855.

thoughtful enforcement superstructure to both monitor and reduce the anticompetitive harm from common ownership.[14]

So, is there anything that should give one pause before embarking on what might be a radical reset of antitrust enforcement policy? At the outset, the most obvious reason for pause is that these are the only two papers that indicate such a reset is necessary and (at least as of this writing), neither paper has appeared in any peer-reviewed journals (meaning that the published papers could differ substantially from earlier versions). In an insightful consideration of these papers, Baker (among others, including myself) noted that "the empirical economic literature relating overlapping financial investor ownership to higher prices is in its infancy." Before engaging in an antitrust reset, at a minimum, additional research to establish both the robustness of these two Azar et al. papers and to evaluate the effects in other industries would seem appropriate.

What follows is a discussion of both the conceptual and the empirical shortcomings that have been raised by others reviewing what I believe are earlier versions of the airline paper in particular. However, the most recent version of the Azar et al. airlines paper addresses many of these issues, as I highlight below. It would not be a surprise if revisions to the Azar et al. banking paper will similarly respond to referee critiques.

IV. BASIC CONCEPTUAL ISSUES

A. Relationship between the MHHI and Price

O'Brien and Waehrer note that there is no obviously monotonic relationship between the MHHI and price. Indeed, the simplest example is one that has been used in understanding the flaws in assuming HHI increases result in price increases. Suppose an exogenous shock results in the reduction in costs for one particular large firm. As a result, the firm lowers price, expands its output, and increases its market share. The HHI and the MHHI will both increase but price will fall. More generally, within the context of a simple model, O'Brien and Waehrer show that the relationship between the MHHI and MHHI Delta on the one hand and price on the other can be positive or negative as both increase.[15]

A related issue is the question of whether the underlying model that generates the MHHI relationship used by Azar et al. is appropriate for their analysis. The model — a Cournot model — is one that has been used, for example, to predict the effect of a merger on price changes in a homogenous goods market. Arguably, both the airline industry and the banking industry are more differentiated than homogenous. In addition to competing on fares, airlines compete on other dimensions such as baggage fees, frequent-flyer miles, food service, on-time performance and the like.[16] Similarly, banks compete on the terms of savings and checking accounts such as minimum balances and credit card deals as well as interest and fees on checking and savings accounts.

As a result, the MHHI used by Azar et al. may be generating results that are based on an inappropriate underlying model, which in turn casts some doubt on their interpretation of their results. Suppose that an investor has a financial interest in Firm A and acquires an interest in a rival Firm B. The competitive effect of that acquisition will depend on (among other things) the degree to which the output of A and B are substitutes. If in "product space," few consumers of Firm A's output would not switch to that of Firm B if the price charged by A increases, then the anticompetitive effects will be overstated by any increase in the MHHI that might result because of the lack of consumer substitution between the outputs of those two firms.[17] In his commentary, Patel concludes: "For that reason, it is not especially meaningful to ask whether, as a general matter, a high level of common ownership will result in substantial competitive harm since the answer depends on the structure of the relevant market."

14 Posner, Scott Morton & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors* (March 25, 2017) (hereinafter, Posner et al.) (forthcoming, ANTITRUST LAW JOURNAL), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2872754. More modest proposals have been offered by Rock and Rubinfeld at 28-36, and by Elhauge at 1301-1316.

15 This issue is also discussed in Patel, *Common Ownership, Institutional Investors, and Antitrust* (April 2017) (forthcoming in the ANTITRUST LAW JOURNAL) (hereinafter, Patel) at 31-34, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2941031.

16 However, the Cournot model in the airline industry is more likely to be appropriate if capacity rather than price is the decision variable of focus.

17 An extended discussion of this point can be found in Patel at 37-40. This criticism has also been leveled at the use of the HHI for predicting the competitive effects of a merger in differentiated product markets.

However, in the airlines paper, Azar et al. do in fact consider a metric based on the Bertrand model of differentiated product competition. (To anticipate an empirical issue below, a version of market shares is used in the Bertrand metric.) That metric does have a statistically significant effect on airline fares, but the effect appears to be far smaller than that of the MHHI Delta. However, the discussion of the "right" model in the paper is limited and it is not clear how one could compare the price effects for comparable changes in the MHHI Delta and the Bertrand-based metric.[18]

B. Heterogeneity, Fluidity and Extent of Holdings

Rock and Rubinfeld note that while some of the leading institutional investors (focusing on Vanguard and BlackRock in particular) have financial interests in each of the major airlines, other institutional investors have interests in only some of the airlines. Using their example, Primecap has an 11.2 percent ownership interest in Southwest, a 7.6 percent interest in JetBlue, and no ownership interest in United or Delta. How are airline managers to align the interests of these diverse stakeholders? Rock and Rubinfeld note that "While Vanguard and BlackRock might plausibly have an economic incentive to prefer 'soft competition,' Primecap might well argue for Southwest and Jet Blue to undercut Delta and United if that is in the unilateral interest of Southwest and JetBlue."[19]

A further complication for airline managers is the fluidity of institutional investor holdings. If the ownership stakes of these investors change frequently and non-trivially, the manager of each airline might find it necessary to alter strategies frequently. Such changes could generate a substantial cost for the airlines and may lead the managers to focus only on the stand-alone profits of the airline.

In addition, some observers have noted that institutional investors holding stakes in the airline industry may also hold financial interests in other markets related to the airline industry, such as food caterers, fuel service providers, rental cars and hotels.[20] If airline prices are higher as a result of the holdings of these investors, the demand and profits (quasi-rents or longer-term rents) of these related services will fall. Thus, it is possible that an institutional investor may earn higher airline profits from the reduction in airline competition but lose even greater profits from its stake in these related upstream or complementary services. Put differently, the airline manager would find its maximization of its own and investor profits a substantially more complex problem than "simply" considering the airline profit gains to the investors. The Azar et al. papers focus only on the institutional holdings in the particular industry (airlines and banking), not in related industries. [21]

C. Investor Control Issues

As noted above, the interests of institutional investors are not necessarily aligned, depending on both the extent of the financial interest in any particular airline (for example) and the breadth of the financial interest across airlines, including no interest by some investors in some airlines. How is the firm manager to account for these diverse interests? O'Brien and Salop resolve this conundrum in one control scenario by *assuming* that the managers of each firm "maximize a weighted sum of the shareholder's returns…Under this formulation, a higher weight on the profit of a particular owner is associated with a greater degree of influence [or control] by that owner over the manager. Different control scenarios then correspond to different sets of 'control weights' for the different owners."

Azar et al. assumes that the degree of control or influence of the institutional investor is proportional to the fraction of shares held by the investor. While that may sound reasonable, that is not the only form that control scenarios may assume. In

18 I note that the paper (at 28) concludes that results are consistent with the Cournot model being more applicable than the Bertrand model, but the basis for that conclusion (other than citing some other literature) is not obvious. For a contrary view, see the discussion in Patel at 34-40 and the sources cited therein.

19 In addition, it may be necessary to distinguish between investors with short and long time horizons. For example, see Pukthuanthong, Turtle, Walker & Wang, *Litigation Risk and Institutional Monitoring* (November 2016) (forthcoming, JOURNAL OF CORPORATE FINANCE), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2872515.

20 See Baker at 31; Woodbury, *Paper Trail: Working Papers and Recent Scholarship*, 14 ANTITRUST SOURCE (Dec. 2014) (commenting on the airline paper) at 6, available at: http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_paper_trail_12_16f.pdf.

21 Rock and Rubinfeld suggest that given this heterogeneity and fluidity in holdings by institutional investors, "the only strategy that will win support among the investors is to maximize the value of the single [firm] without paying attention to what happens to competitors."

addition to proportional control, O'Brien and Salop also consider various other scenarios, including ones in which the laws regarding fiduciary obligations prevent (if effective) managers from acting in the interests of the larger shareholders which may harm minority shareholders.

But the assumption of proportional control can lead to counter-intuitive results. Suppose an investor holds a one percent share in all rival firms while numerous other investors individually have very small shareholdings in only one of the firms in the market. The theory underlying the MHHI with proportional control would result in that one percent shareholder having effective control over all rivals and exercising that control to generate a near monopoly outcome. That does not seem to be a plausible outcome.[22] One control scenario suggested by Patel allows the common owners to exercise some control only if their holdings in the various firms exceed a certain threshold.

Indeed, Azar et al. (A) in fact consider limiting the "control" shareholders to the top 10, top 5, top 3, and top 2 shareholders as well as just the leading shareholder. Azar et al. conclude that "Only common ownership by shareholders ranked first and second has a positive and highly significant effect on ticket prices." That analysis still leaves open the question above that the largest shareholder, with a very small share while all other shareholdings are trivial, could seemingly lead to a near monopolization of the industry.

Interestingly, in the airline paper, Azar et al. describe the use of a voting power index rather than ownership shares as an alternative metric for control and the paper concludes that the proportional control assumption is not a driver of the results.[23] The discussion of this index is very brief, with no discussion of the construction of the metric and so is difficult to comment on. It is not clear whether the fare effects of changes in this index leads to ones comparable to the results using the MHHI. However, that metric likely includes the market shares of the airlines and so raises some empirical issues discussed below.

D. Incentivizing Management to Maximize the Profits of the Common Owners

While the model used by Azar et al. assumes that managers will take into account the shares held by the common owners and so maximize the profits of those owners accounting for their interests in rival firms, an important question is what creates the incentives for managers to do so. Azar et al. (A) provides a discussion of alternative influence channels. They include "doing nothing" which would lead managers to generally become less aggressive because of seemingly lax oversight of management.[24] Or institutional investors may become more aggressive in coaxing management to soften competition with rivals or acquire and use board positions to directly or indirectly threaten management.

Another approach might be to tie the manager's income to the profits of the entire industry rather than the individual firm itself. In a recent paper, Anton and fellow coauthors observe that "it is in the asset managers' [common owners'] interest to structure executive pay in such a way that managers have weakened incentives to compete aggressively against their industry rivals."[25] Empirically, the paper tests the proposition (among others) that the form of executive compensation depends in part on the MHHI Delta (i.e. the difference between the MHHI and the "ordinary" HHI). Based on their empirical analysis, Anton et al. conclude that "managerial incentive contracts can give managers economic reasons to act in their shareholders' anticompetitive interests." The higher is the MHHI Delta, the more likely it is that executive compensation is tied to industry rather than firm performance. If true, that would provide some basis for concluding that individual firm managers maximize something other than their firm's standalone profits.[26]

22 This example is due to Carl Shapiro, cited by O'Brien and Waehrer at 29.

23 This same metric was proposed by O'Brien and Waehrer at 29-30. I note in passing that Azar has also developed complementary indices, as yet untested. Azar, *Portfolio Diversification, Market Power, and the Theory of the Firm* (January 2017), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2811221.

24 Of course, a "do-nothing" approach may reduce profits if it permits the managers to become inefficient.

25 Anton, Ederer, Gine, and Schmalz, *Common Ownership, Competition, and Top Management Incentives* (November 2016) (hereinafter, Anton et al.) at 1, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2885826.

26 Elhauge (at 1278-1281) makes a similar point. However, it is not obvious how this empirical result, if it is robust, maps into the manager's profit maximization calculus that accounts for the interests of each common owner that underlies the use of the MHHI.

One issue with this conclusion is that it conflicts with statements made by some leading firms and institutional investors. For example, Rock and Rubinfeld note that two major airlines — Delta and American — base executive compensation on (e.g.) Delta's performance relative to other airlines, which would encourage rather than discourage greater competition. Similarly, they note that Vanguard has viewed relative performance-based compensation as the appropriate mechanism to maximize the individual firm's value. Further complicating the interpretation of the Anton et al. results is a second paper that relies on an estimation approach similar to Anton et al. and reaches the opposite conclusion, namely that executive compensation is more closely tied to firm performance relative to the industry as common ownership increases.[27]

V. BASIC EMPIRICAL ISSUES

Azar et al. estimate a reduced form relationship between price and the MHHI in the banking paper and the HHI and MHHI Delta in the airline paper, which (roughly speaking) assumes that the HHI, MHHI and MHHI Delta are exogenous (i.e., not affected by random shocks in demand or costs and resulting price changes), an assumption the two papers attempt to relax using various econometric techniques. Nonetheless, there have been questions raised about the robustness of the estimation in the airline and banking papers.

One key issue is whether the MHHI or MHHI Delta are capturing the effects solely of common ownership or something more. Azar et al. made efforts to ensure that one could interpret the MHHI or MHHI Delta as "causing" the higher fares as opposed to some other variable that was correlated with both the ownership variables and the prices. This effort is particularly extensive in the airlines paper.

Rock and Rubinfeld note that the Azar et al. construction of the MHHI Delta uses the average number of market passengers as weights across airline routes in the statistical analyses and that construction may have resulted in a spurious correlation between fares and the MHHI Delta.[28] If the results depend on larger markets, i.e. markets with a greater number of passengers, that are more concentrated to begin with, then the positive relationship between airline fares and the MHHI Delta may be spurious: "the major airlines have higher margins on those routes, due to greater market power, increased efficiencies, or a combination of both." If these larger-market traits are responsible for the price-MHHI Delta relationship, then the MHHI Delta is not the cause of the higher fares.

In addition, Rock and Rubinfeld argue that over the time period spanned by the airline paper, demand for airline service was increasing as the economy recovered from the Great Recession. If the demand for airline service grew relatively more in the larger markets, fares would tend to increase and again generate a spurious positive relationship between fares and the MHHI Delta. O'Brien and Waehrer make a similar observation.

The most recent version of the Azar et al. airlines paper does test for these possibilities and finds that the MHHI Delta continues to have a statistically significant impact on airline fares for all but the very largest and smallest markets, although the effect increases as the size of the market increases.

O'Brien and Waehrer also note that market shares used in both the HHI, the MHHI, and the MHHI Delta are also affected by prices. Using their airline example, suppose that there is an increase in demand on a particular route and one airline is better poised than its rivals to take advantage of that increased demand. With demand increasing, prices will tend to rise and the share of the advantaged airline will rise. The HHI, MHHI, and MHHI Delta will tend to increase as well, suggesting that the MHHI and MHHI Delta "caused" the price increase when in fact the price increase was due to an increase in demand and an advantaged airline, not a result of seemingly anticompetitive ownership arrangements.

However, at least with respect to airlines, Azar et al. do include, as controls, factors such as (among others) changes in fuel costs and per-capita income. While these controls may mitigate the concerns raised by Rock and Rubinfeld and O'Brien and Waehrer,

27 See the discussion in O'Brien and Waehrer (at 31-32) of a paper by Kwon, *Executive Compensation under Common Ownership*, Department of Economics, University of Chicago (November 29, 2016).

28 See, for example, the discussion in Table 3 of Azar et al. (A).

they would not have eliminated the effect of prices on the market shares used in the HHI, MHHI and MHHI Delta. As a result, spurious correlation may remain an issue.[29]

O'Brien and Waehrer also note that investors may choose to invest in successful companies and because of their success, those firms may be able to charge higher prices. In this case, the MHHI and MHHI Delta could be associated with higher prices but only because the firms themselves were particularly successful and attracted investors, not because of any anticompetitive ownership effects arising from the investors' stakes in the firms.

In the airline paper, Azar et al. do in fact account for the possibility of this "reverse causality." In the most straightforward approach, Azar et al. argue that "if common ownership causes higher prices, but higher prices don't cause common ownership [to increase], one would expect higher prices to follow increases in common ownership, and not higher common ownership to follow higher prices." The paper finds that MHHI Delta changes that follow the price change have no statistically significant effect on future prices while those that precede the price change have such an effect.

Still, Azar et al. note the possibility that "some investors are very well informed about route-level demand changes several months before the fact but cannot tell which airline serving the route will benefit more, therefore buy[ing] shares of all airlines with high market shares in precisely those routes…" If that were the case, the MHHI Deltas could increase as prices increase but the increase in the financial stakes would not have caused the increase.

To address this concern, the paper uses an "instrumental variable" approach to account for this possibility in the MHHI Delta that (if successful) would eliminate or greatly mitigate the question of reverse causality. In that effort, Azar et al. account for both the mergers in airline industry and the emergence from the Great Recession.[30] In doing so, Azar et al. continue to find a positive relationship between the MHHI Delta and air fares (estimating that common ownership increased air fares by 10-12 percent). However, the market shares used in the HHI component of the analysis could still create a spurious correlation with prices to the extent that both are correlated with other price-affecting variables and so bias the results.[31]

In the airline paper, Azar et al. also test a different relationship to address causality issues. Instead of assessing the relationship between the HHI and MHHI Delta on fares, the paper assesses the effect of the HHI and MHHI Delta on passenger volumes. The paper finds that increases in the MHHI Delta (and the HHI) lead to statistically significant reductions in passenger volumes. The obvious criticism here is that the market shares used in the HHI and MHHI are also affected by airline fares and so the results are biased.

VI. CONCLUSION

These two Azar et al. papers have created an obvious stir in the antitrust community. They have led to a rapid endorsement by respected antitrust practitioners of the papers' surprise findings and have already affected some agency investigations. Indeed, some of these practitioners have already proposed frameworks for addressing the ownership stakes of institutional investors, the most detailed being that of Posner et al.[32] Perhaps it is not so surprising that those findings have also given rise to careful critiques of the airline and banking papers even though these papers have yet to be published in peer-reviewed journals.

29 This is most obviously a concern in the airline paper where the possible reverse causality between fares and the HHI remains unaddressed.

30 Rock and Rubinfeld (at 12-13) criticize Azar et al. for not taking these confounding factors into account. It appears that the Rock and Rubinfeld paper assessed a somewhat earlier version of the airline industry paper.

31 Azar et al. (at 20-30) also use an instrument for the MHHI in its analysis of banking markets. However, that instrument also includes bank market shares, which raises the same kind of causality issues discussed in connection with the airline analysis in Azar et al. (A).

32 Rock and Rubinfeld (at 28-32) and Elhauge (at 1314-1316) offer more modest proposals (with a reaction to Elhauge by Baker (at 223-232) that considers the limitations and hurdles of developing an enforcement policy). The Posner et al. design of one possible set of guidelines highlights how complicated the task could be.

There are some points worth emphasizing. First, the study of the competitive effects of common owners — institutional investors — has just begun. The results of the two papers are certainly intriguing but this is likely just the tip of the research iceberg. More effort to both revisit the banking and airline industries using other techniques and modeling approaches to address the robustness of these results, the channels of investor control or influence and the generality across markets should be conducted before concluding that antitrust enforcement policy needs to become proactive in addressing the potential for anticompetitive effects.[33] For that reason, I have not here discussed proposals to remedy these effects. Indeed, while the proposals focus generally on possible ownership limits that could be imposed on institutional investors, recall that the most recent Azar et al. airline paper finds that only the top two common owners "count."

Second, while some observers have criticized the methodology of Azar et al., many of those criticisms were addressed in the latest version of the airline paper — perhaps not completely, but still quite thoroughly. And the finding that a higher MHHI Delta leads to higher airline fares persists. I would expect that the banking paper would also be revised to account for similar criticisms. This is not a criticism of the criticisms. The speed with which the so-far unpublished Azar et al. results have already affected antitrust enforcement demanded a (relatively) quick response and highlights the potential broad ramifications if the Azar et al. findings are robust across different methodologies and markets.

Third, O'Brien and Waehrer (for example) show that in theory, there is no reason to believe that the MHHI or MHHI Delta would always result in higher prices and that an increase in the MHHI can be positively related to prices with no change in the extent of common ownership. Baker and Woodbury express reservations as a result of the failure of the constructed MHHI to account for investments in complements by institutional stakeholders, which could mitigate or reverse any incentive to encourage price increases. While Azar et al. find such a relationship in spite of such concerns, the failure to account for those concerns again raises the question of spurious correlation.

While they may not have resolved all of the econometric or conceptual issues involved in estimating the price-MHHI relationship, the airline paper in particular has become more robust and certainly makes it difficult to dismiss the findings out of hand. More research will inform antitrust practitioners about both about the size and generality of the adverse effects of common ownership. As research progress is made on that front, then it would make sense to consider the appropriate policy prescription (assuming the progress finds a robust relationship between price and common ownership by institutional investors).

Finally, even if future research is consistent with the findings of Azar et al. and that research would serve as a basis for changing antitrust policy, that policy change should weigh the costs of taking action against institutional investors with respect to any capital market efficiencies resulting from those investments. For example, Baker identifies three possible sources of inefficiency if restrictions are imposed on institutional investors: effects on the cost of diversification by retail investors, on corporate governance and on liquidity concerns.[34] While Baker and Posner et al. offer insightful arguments as to why these concerns may be of less concern than one might think, Rock and Rubinfeld as well as O'Brien and Waehrer highlight the potential for common ownership restrictions to both increase the costs of diversification for retail investors who have purchased highly-diversified index funds and to reduce the ability of institutional investors to provide counsel to firm managers.[35]

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33 For example, O'Brien and Waehrer (at 27-28) suggest an alternative, more comprehensive but transparent approach to modeling the price effects of common ownership that would directly account for changing cost and demand conditions as well as the control mechanism, all embedded in a model of competition.

34 One very preliminary study suggests another efficiency, that common ownership by institutional investors may facilitate the spread of innovation. Kostovetsky & Manconi, *Common Institutional Ownership and Diffusion of Innovation* (April 2017), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2896372.

35 Within its highly-detailed proposed antitrust guidelines for institutional investor holdings, the Posner et al. paper (at 26) would exempt index funds that committed to being purely passive investors (e.g., engaging only in "mirror voting"). Rock and Rubinfeld (at 2 and 27) also consider the adverse corporate governance effects of restrictions on the holdings of institutional investors. Others have come to a different conclusion. Baker notes (at 228) that if institutional investors are restricted to having a stake in only one firm, they will tend to invest more in that single firm and "with larger ownership stakes, each of the remaining investors would have a greater incentive than before to monitor firm management, so corporate governance would more likely improve overall…" In their proposal to prevent anticompetitive harm from the holdings of institutional investors, Posner et al. (at 37) echo that point.

In sum, the findings of Azar et al. are certainly intriguing and have spawned a debate on the competitive significance of the actions of institutional investors. There should be little doubt that further research should be pursued by these and other researchers to validate (or not) the anticompetitive effect and the generality of that effect of shareholdings by institutional investors. If that effect is robust, it could justify significant changes in policy. But it would be premature and potentially very costly to do so without that further evidence.

THE GROWING PROBLEM OF HORIZONTAL SHAREHOLDING

BY EINER ELHAUGE[1]

I. INTRODUCTION

A little over a year ago, I published my *Horizontal Shareholding* article, which pointed out that horizontal competitors increasingly have the same leading shareholders, explained why this was likely to lessen competition, and argued that this lessening of competition could help explain economic puzzles like the use of inefficient methods of executive compensation and the growing gap between corporate profits and investment.[2] I recommended investigating high levels of horizontal shareholdings in concentrated markets and bringing antitrust actions when likely anticompetitive effects were established.

Since then, the evidence has gotten even stronger, showing that horizontal shareholding has continued to grow and that markets with higher levels of horizontal shareholding are strongly correlated with inefficient executive compensation and the corporate profit-investment gap. Although objections to my analysis have been raised in various articles, some funded by institutional investors with large horizontal shareholdings, the weakness of those objections has only confirmed the advisability of taking antitrust action to address the problem.

II. THE CONTINUED SPREAD OF HORIZONTAL SHAREHOLDING

Relying on the path-breaking work of Azar, Schmalz, Tecu and Raina, my article pointed out that a small set of institutional investors have become leading shareholders at the largest competitors in airline, banking, computer and pharmacy markets, and that empirical studies had confirmed that these horizontal shareholdings have anticompetitively affected airline and banking markets. My article also suggested that horizontal shareholding was likely a problem in many other markets because institutional investors had grown from owning 34 percent of all U.S. common stock in 1980 to 67 percent in 2010 and owned 80 percent of all stock in S&P 500 corporations by 2012. Further, although all sorts of institutional investors have portfolios that include horizontal shareholdings, index/ETF funds necessarily do and their share of

1 Petrie Professor of Law, Harvard Law School.

2 Elhauge, *Horizontal Shareholding*, 129 Harvard Law Review 1267 (2016), https://ssrn.com/abstract=2632024.

institutional investor assets was growing rapidly.

Empirical work since then has not only confirmed widespread horizontal shareholding, but also indicated the problem has grown even worse. By 2015, the three biggest index funds (BlackRock, Vanguard and State Street) together constituted the largest shareholder in 88 percent of S&P 500 firms and more generally at 1,662 listed U.S. corporations, where their average ownership was 17.6 percent of the corporation's stock.[3] The evidence also shows that in recent decades the level of institutional shareholding passed a tipping point, such that the probability that two competing firms have a common shareholder holding at least 5 percent of each has increased from 16 percent in 1999 to 90 percent by the end of 2014.[4]

New work has also confirmed worrisome levels of horizontal shareholding in many markets. The antitrust agencies measure market concentration by HHIs and presume that a merger will anticompetitively raise prices if it increases HHI by more than 200 and results in an HHI over 2500. With horizontal shareholding, the best measure of likely anticompetitive effects is MHHI, which equals HHI plus a ΔMHHI that reflects the level of horizontal shareholding. From 1994 to 2013, the ΔMHHI in the average market increased from 942 to 1771 in manufacturing, from 926 to 1572 in services, from 882 to 1540 in wholesale, from 1102 to 2243 in retail, from 1227 to 1899 in mining, from 1103 to 1763 in construction, from 1557 to 2322 in transportation, and from 1121 to 1968 in finance/insurance/real estate.[5] This brought the average market MHHI in each of these sectors above 3600.

These statistics are likely even worse today because of the continued growth and consolidation of index funds that necessarily have horizontal shareholdings. By June 2016, the three biggest index funds managed over 90 percent of all assets held by all index funds.[6]

III. THE INCREASINGLY POWERFUL PROOF ON ANTICOMPETITIVE MECHANISMS

The natural concern raised by horizontal shareholdings is that firms are less likely to compete vigorously with each other if they have common owners. Because the financial interest of horizontal shareholders in lessened competition is so clear, critics instead focus on disputing the existence of any mechanism for horizontal shareholder interests to influence the competitive decisions of corporate managers.

But the mechanisms do not seem at all mysterious. Decades of work on corporate governance has emphasized that managers are disciplined to serve shareholder interests by a combination of executive compensation incentives, shareholder voting, control contests, capital markets, labor markets and legal duties.[7] Although these mechanisms cannot totally eliminate agency slack, they do assure managers are primarily influenced by the interests of their shareholders. Indeed, if managers do not primarily act in the interests of shareholders, our economic system has problems even bigger than horizontal shareholding

The problem is structural. Horizontal shareholders clearly benefit less from competition among the firms in which they are invested. Corporate rights and markets are designed to make sure managers primarily operate corporations in the interests of their shareholders. Thus, increased horizontal shareholdings will structurally lead businesses to compete less vigorously against each other. This anticompetitive effect does not require any communication between the managements of different corporations, because each corporation's management has its own incentives to compete less in order to please its own shareholders. Nor does the anticompetitive effect require any communication between shareholders and managers, because managers know whether their leading shareholders are horizontal and know that lessening competition benefits those shareholders. Work since my article has added further confirmation of these structural incentives.

3 Fichtner, et al., *Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk*, Business & Politics 1, 16-17 (April 25, 2017), https://doi.org/10.1017/bap.2017.6.

4 Azar, *Portfolio Diversification, Market Power, and the Theory of the Firm* at 2 & Figure 1 (Jan. 30, 2017), https://ssrn.com/abstract=2811221.

5 Anton et al., *Common Ownership, Competition, and Top Management Incentives* at Table 2B (August 15, 2016), http://ssrn.com/abstract=2802332.

6 Fichtner, supra note 3, at 7.

7 See, e.g. Easterbrook, *Managers' Discretion and Investors' Welfare: Theories and Evidence*, 9 Del. J. Corp. L. 540, 543 (1984).

Executive Compensation. Holmström's Nobel prizewinning work has long shown that it would be efficient to base incentive compensation only on the performance of the executive's firm relative to others firms, filtering out general industry performance.[8] So it has been a puzzle that a major part of actual executive compensation is based on industry performance. Azar, Schmalz and Tecu had posited that horizontal shareholding might explain this puzzle.[9] My article showed that the pattern of then-existing empirical evidence was not only consistent with their hypothesis, but also conflicted with alternative explanations like shareholder error or powerlessness. That empirical evidence showed that: (1) in less competitive markets, executive compensation was based more on industry performance and less on firm performance; (2) executive compensation had become increasingly based on market performance since the 1990s, which coincides with a dramatic rise in horizontal shareholding; and (3) large institutional investors voted against proposals to make executive compensation based more on individual corporate performance.[10]

My analysis of executive compensation has been critiqued in a paper by economic consultants O'Brien and Waehrer that was funded by the Investment Company Institute, which represents institutional investors and was headed for the last three years by the CEO of Vanguard.[11] They argue that executive compensation cannot encourage managers to take into account the profits of rival firms because executive compensation is partly fixed and does increase somewhat with increased firm profits.[12] However, a recent mathematical proof shows that increased levels of horizontal shareholding mean that shareholder interests are maximized by executive compensation that increases the weight put on fixed pay and rival-firm performance relative to own-firm performance, rather than (as O'Brien and Waehrer wrongly assume) by compensation that puts no weight on fixed pay or own-firm performance.[13] If all shareholders have parallel horizontal holdings in all firms (such as with index funds), then shareholder profits will be maximized by compensating executives just as much for their own firm's performance as for rival performance, which will lead to monopoly pricing. The compensation package that is optimal for horizontal shareholders also includes some fixed pay because it reduces executive risk while providing no incentive to favor own-firm profits over rival profits. Importantly, this proof holds even though uncoordinated competition among the firms is assumed.

A new empirical study by Anton et al. has also shown that (just as this proof predicts) in markets with higher horizontal shareholding levels, firms compensate executives "less for their own firm's performance and more for their rival's performance."[14] The statistical confidence level of this finding is over 99 percent. Also consistent with this proof, higher horizontal shareholding is associated with increased fixed pay and 25 percent higher total pay. Such compensation methods give managers direct incentives to lessen competition, without requiring any shareholder communications on competitive strategy.

O'Brien and Waehrer critique the Anton study because Kwon reached the opposite conclusion, which they attribute to the fact that Kwon used percentage-based measures of incentive pay rather than dollar-based measures.[15] But they are mistaken: the Anton study reaches the same results with percentage (i.e. log) based measures.[16] The more likely explanation is that Kwon's MHHI calculations are different, perhaps because Kwon does not report making efforts to check the Thomson-Reuters database against other sources to remove inaccuracies.[17] Kwon's result also conflicts with a separate study by Liang that finds having a common

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8 Holmström, *Moral Hazard in Teams*, 13(2) Bell Journal of Economics 324-40 (1982).

9 Elhauge, supra note 2, at 1279.

10 Id. at 1279-81.

11 O'Brien & Waehrer, *The Competitive Effects of Common Ownership: We Know Less than We Think* at n.1 (Feb. 22, 2017), https://ssrn.com/abstract=2922677; https://www.ici.org/about_ici/annuals.

12 O'Brien & Waehrer, supra note 11, at 5-6.

13 Anton, supra note 5, at 1, 4, 14-17.

14 Id. at 1, 5-6, 26-28, Table 4.

15 O'Brien & Waehrer, supra note 11, at 31-32.

16 https://sites.google.com/site/martincschmalz/presentation_AEAfinal.pdf?attredirects=0&d=1 at Slide 21 (Jan. 7, 2017).

17 Kwon, *Executive Compensation under Common Ownership* at 13 (April 13, 2017) (reporting using the Thomson-Reuters database without any corrections); cf. Azar, Schmalz & Tecu, *Anti-Competitive Effects of Common Ownership* at 10 n.7 (May 16, 2017), https://ssrn.com/abstract=2427345 (noting that because

horizontal shareholder with at least a 5 percent stake sharply increases the degree to which executive compensation is based on rival stock returns rather than own-firm stock returns.[18] Finally, the Kwon paper is limited to studying pay-based compensation, but executive compensation is actually dominated by wealth-based compensation like grants of stock or options. Anton et al. show that if one includes wealth-based compensation, their results get even stronger and are robust to alternative definitions of the markets or horizontal shareholding levels.[19]

Another critique comes from Professors Rock and Rubinfeld, the latter of whom has been a consultant for the airlines whose horizontal shareholdings have been found to create anticompetitive effects.[20] Rock and Rubinfeld claim executive compensation is an unlikely mechanism "given the limited role of shareholder voting in setting managerial compensation."[21] However, they themselves acknowledge that corporations have long had to get shareholder approval of incentive-based pay and since 2011 need shareholder approval for "all aspects of compensations for top executives." They also point out that compensation proposals are "approved 92% of the time" and that institutional investors acknowledge it is efficient to base incentive compensation solely on own-firm performance, rather than partly on industry performance.[22] But that just confirms the underlying puzzle: why aren't institutional investors more often voting against executive compensation methods that they know are inefficient? The economically rational explanation is that they have incentives not to do so when they have horizontal shareholdings, and that explanation fits the proven empirical link between executive compensation methods and horizontal shareholding.

Shareholder Voting. Some doubt that shareholder voting is likely to affect manager decisions because managers are rarely voted out of office. But politicians are also rarely voted out of office, and no one doubts that changes in a politician's electorate can alter the behavior of politicians, precisely because they want to reduce the odds of being voted out of office. Moreover, my article showed that the pattern of empirical evidence on management *ousters* (which necessarily reflect an inability to secure re-election votes) was also far more consistent with horizontal shareholding influence than with alternative explanations like shareholder powerlessness. That empirical evidence showed that: (1) before the 1990s explosion in horizontal shareholding, managers were ousted based on individual corporate performance, with industry performance filtered out; (2) since the 1990s explosion in horizontal shareholding, decisions to oust managers have been driven almost as much by industry performance as by individual corporate performance; (3) the influence of industry performance on ouster decisions does not vary with the length of executive tenure or degree of executive power; and (4) 53 percent of institutional investors admitted in a survey that they tried to influence managers by voting against them.[23]

Work since my article has only confirmed that the voting of horizontal shareholders is likely to influence managers. New scholarship mathematically proves that if managers try to maximize either their expected vote share or their probability of winning re-election, managers will maximize the weighted average of their shareholders' profits from all their stockholdings.[24] If all shareholders have equivalent horizontal holdings across all firms (such as with indexing), then this will lead managers to have each firm price at monopoly levels despite nominal competition. If managers maximize their expected vote share, shareholders will be weighted proportionally to their voting shares, so increased horizontal shareholding will proportionally increase prices. If managers maximize their probability of re-election, shareholders will be weighted by the odds that the particular shareholder's vote will be pivotal, which gives extra weight to the largest shareholders, who typically are now horizontal shareholders. This proof requires no communication

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the "Thomson-Reuters dataset is well-known to be incomplete and feature various other inaccuracies," they checked it against other sources to remove inaccuracies).

18 Liang, *Common Ownership and Executive Compensation* (October 2016).

19 Anton, supra note 5, at Appendix B.

20 Rock & Rubinfeld, *Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance* at n.* (March 1, 2017), https://ssrn.com/abstract=2925855.

21 Id. at 9-10.

22 Id. at 10, 16.

23 Elhauge, supra note 2, at 1279-81, 1307.

24 Azar, supra note 4, at 12-16.

between firms or between managers and shareholders, though shareholder-manager communication can exacerbate the problem by giving more weight to the shareholders who communicate.

New empirical work has also rebutted some claims about the ineffectiveness of shareholder voting. Some suggest that institutional investors are unlikely to be influential because their separate funds vote separately. But recent empirical work shows that institutional investors like BlackRock, Vanguard and State Street closely control the voting of all their funds. For every 100,000 shareholder proposals, the number of which resulted in any of their funds voting different from the others was only 6 at Vanguard, 18 at BlackRock and 195 at State Street.[25] This same study shows that, although these institutional investors vote against management recommendations only 10 percent of the time, about half of their opposition votes are on board re-elections.

Nor is there any need to vote against managers if the possibility of such a vote suffices to make managers act in the interests of voters. BlackRock has reportedly said that "meetings behind closed doors can go further than votes against management" and gives executives one year before voting against them if they do not listen.[26] State Street has likewise stated that its ability to vote against management "ensures" its "interests are given due consideration."[27] Rock and Rubinfeld argue that shareholder voting is unlikely to affect competitive strategy because proxy statements only contain information on director qualifications and compensation.[28] But that only accentuates the influence of institutional investors because they likely have other sources of information on a director's competitive strategy, whereas small non-horizontal shareholders are more likely to rely on those uninformative proxy statements.

Shareholder Communications. Although direct communications between managers and horizontal shareholders are not necessary for anticompetitive effects, this does not mean that such communications do not occur. As I noted in my article, 63 percent of institutional investors admitted that they engaged in direct discussions with corporate managers, and one admitted that high on the list of topics was urging managers to raise prices rather than compete for market share.[29] The evidence of such communications has grown even stronger, now indicating that in a recent year BlackRock had over 1,500 private engagements with firms that they held and Vanguard had over 800.[30] BlackRock's CEO has stated, "we are taking a more active dialogue with our companies and are imposing more of what we think is correct."[31] He even declared, "We can tell a company to fire 5,000 employees tomorrow."[32] Because such communications are not necessary for anticompetitive effects, they should not be required in an antitrust action, but when present they do exacerbate those anticompetitive effects.

Other Mechanisms. There are also many other mechanisms for horizontal shareholder influence. The market for corporate control means that managers will want the backing of their horizontal shareholders in the event of a control contest. For example, a control contest designed to get managers of DuPont to behave more competitively was defeated by the decisive votes of horizontal shareholders.[33] Capital markets mean managers will fear that displeased horizontal shareholders might sell their investments, which would depress the stock price and executive stock options. For example, Southwest Airlines reportedly reduced capacity increases after being critiqued by investors who were urging all airlines to hold down capacity.[34] Labor markets mean that managers know that their ability to be promoted to the next job at another corporation will be affected by how favorably disposed its leading shareholders will be. Finally, because competing vigorously is hard work for managers, they are less likely to do it unless their shareholders are

25 Fichtner, supra note 3, at 19-20.

26 Id. at 21-22.

27 Azar, Schmalz & Tecu, supra note 17, at 36.

28 Rock & Rubinfeld, supra note 20, at 9.

29 Elhauge, supra note 2, at 1269-70, 1307.

30 Fichtner, supra note 3, at 21.

31 Id.

32 Anton, supra note 5, at 2 n.3.

33 Elhauge, supra note 2, at 1270-71.

34 Drew, "*Airlines Under Justice Dept. Investigation Over Possible Collusion*," N.Y. Times (July 1, 2015).

actively pressing them to compete. Horizontal shareholdings can thus make managers less likely to compete simply because they make shareholders less willing to exert effort to pressure managers to compete.[35]

Fiduciary Duties. Notwithstanding all these mechanisms, O'Brien and Waehrer argue that horizontal shareholders will not affect corporate decision-making because fiduciary duties require managers to take into account the interests of all their shareholders, including non-horizontal shareholders.[36] But the mechanisms described above assume managers *do* take into account the interests of all their shareholders; the proofs show that taking all shareholder interests into account produces less competition the more those shareholders are horizontally invested. Rock and Rubinfeld argue that the mix of horizontal and non-horizontal shareholders makes shareholder interests too heterogeneous for managers to consider.[37] But the proofs show that managers have incentives to maximize the weighted average of those heterogeneous shareholder interests, and thus to compete less the more those interests are horizontal. Further, although horizontal shareholding lessens competition that would be profitable for a firm acting individually, it also lessens competition from rival firms, so the net effect of horizontal shareholding is to *increase* the profits of all the affected firms. The critics do not explain why they think non-horizontal shareholders would complain about conduct that on balance benefited them, let alone how they could show injury from any claimed fiduciary duty violation. In any event, the operational decisions affected by horizontal shareholding are protected from fiduciary duty claims by the business judgment rule.

Investor Incentives. The Rock/Rubinfeld and O'Brien/Waehrer papers also argue that, even though horizontal shareholders profit from lessening competition, they will not exert any effort to encourage managers to lessen competition because the anticompetitive profits will accrue to all investors whether or not they exert such efforts.[38] Instead, these papers argue that horizontal shareholders (especially index funds) will compete by minimizing effort costs. But when making decisions on executive compensation, board elections, control contests, stock sales or hiring, it takes no more effort for horizontal shareholders to favor than oppose the decision than lessens competition, so they have clear incentives to favor such decisions in order to increase their profits. Further, one of the mechanisms is that horizontal shareholders may simply do nothing to pressure managers to compete, which actually takes less shareholder effort.

IV. THE INCREASINGLY STRONG EVIDENCE OF ANTICOMPETITIVE EFFECTS

Empirical studies of the airline and banking industries have proven the anticompetitive effects of high levels of horizontal shareholding in concentrated markets.[39] Those empirical studies confirm that the above mechanisms must in fact suffice to get managers to take into account the anticompetitive interests of horizontal shareholders. Since then, those studies have faced critiques, but those critiques are either misplaced or, when taken into account, indicate the anticompetitive effects are even stronger.

Rock and Rubinfeld's first critique is that the airline study defined markets by airport pair, rather than by city pairs that include all airports in each city.[40] But a revision of the airline study shows that using city pairs actually makes the harmful price effects *larger*.[41] Rock and Rubinfeld also argued that prices might be lower in routes with lower ΔMHHI because of the presence of low-cost carriers like Southwest.[42] But the airline study controlled for the presence of Southwest or other low-cost carriers.[43] Rock and

35 Azar, Schmalz & Tecu, supra note 17, at 31-32.

36 O'Brien & Waehrer, supra note 11, at 6, 33-34.

37 Rock & Rubinfeld, supra note 20, at 4-8, 10.

38 Rock & Rubinfeld, supra note 20, at 7; O'Brien & Waehrer, supra note 11, at 32-33.

39 Azar, Schmalz & Tecu, supra note 17; Azar, Raina & Schmalz, *Ultimate Ownership and Bank Competition* (July 24, 2016), http://ssrn.com/abstract=2710252.

40 Rock & Rubinfeld, supra note 20, at 12.

41 Azar, Schmalz & Tecu, supra note 17, at 17 & Table 4.

42 Rock & Rubinfeld, supra note 20, at 13-14.

43 Azar, Schmalz & Tecu, supra note 17, at 14-15, Tables 3-7, Table C1-C3.

Rubinfeld further argued that the results might be affected by changes in fuel costs or differences in route size, but the airline study already used fixed effects that controlled for changes in fuel costs and route characteristics. The revised airline study adds controls for the possibility that fuel costs might have different effects in routes with longer distances, and that change also makes the adverse price effects even *larger*.[44]

O'Brien and Waehrer begin by asserting that articles like mine rely on a claim that if one investor owns 5 percent of two firms in a moderately concentrated market, then prices will necessarily rise, no matter what the shareholding of other firms, which they assert is implausible.[45] But that was not at all my claim. My claim was that the theoretical and empirical work supported a conclusion that antitrust agencies should "investigate horizontal stock acquisitions that have created, or would create, a ΔMHHI of over 200 in a market with an MHHI over 2500, in order to determine whether those horizontal stock acquisitions raised prices or are likely to do so."[46] If one investor owns 5 percent in two firms, each with a 20 percent market share in a moderately concentrated market, and the other investors are not horizontally invested and each hold 5 percent of one corporation's stock in the market, then the ΔMHHI would be only 40. My analysis does not claim that a ΔMHHI of 40 warrants even an investigation, let alone a conclusion that prices were necessarily increased.

O'Brien and Waehrer also contest the assumption of proportional control that the prior studies used to calculate MHHIs. They argue that if one horizontal shareholder has one percent of each firm and the remaining shareholders are trivially small, the assumption of proportional control results in a counterintuitive conclusion that the one percent shareholder has absolute control.[47] This argument fails for several reasons. First, their posited pattern of horizontal shareholding conflicts with the reality that large institutional investors on average own 80 percent of stock at large corporations and the big three index funds alone on average have 17.6 percent. Second, it is not so counter-intuitive for a shareholder with a small absolute share to control a corporation when the remaining shareholders are trivially small. They have actually done so in the past.[48] We do not see that situation much nowadays because the growth of institutional investors now means that the remaining shareholders are never trivially small. Third, the revised airline study affirmatively showed that relaxing the assumption of proportional control did not change its results.[49] That study gets similar results if it includes only large shareholders or if it instead (as O'Brien and Waehrer suggest) weighs each shareholder by the probability that its vote will be pivotal. Fourth, because my approach merely calls for investigation in cases where stock acquisitions result in high MHHIs and ΔMHHIs, it always leaves it open for parties to argue that their particular case has some unique features that indicate unlikely price effects.

O'Brien and Waehrer's main argument is that, when markets have an asymmetry that makes output adjustments feasible for some firms but not others, then: (1) an increase in horizontal shareholding that increases prices may reduce output only at the flexible firms, which can reduce their market shares in a way that reduces MHHI and ΔMHHI, creating a spurious negative correlation between prices and MHHI and ΔMHHI even though horizontal shareholding actually increases prices; (2) increased demand might increase prices and output at only the flexible firms, increasing their market shares in a way that increases MHHI and ΔMHHI, producing a spurious positive correlation between prices and MHHI and ΔMHHI even if horizontal shareholding has no effect on prices.[50] Rock and Rubinfeld echo the latter claim that increased demand on some routes might be increasing both ΔMHHI and prices.[51]

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44 Id. at 14-15 & Tables 3-7.

45 O'Brien & Waehrer, supra note 11, at 3.

46 Elhauge, supra note 2, at 1303.

47 O'Brien & Waehrer, supra note 11, at 29-30.

48 *Caplan v. Lionel Corp.*, 246 N.Y.S.2d 913 (1964) (describing case where 3 percent of stock sufficed to control 7 out of 10 seats on the board of directors).

49 Azar, Schmalz & Tecu, supra note 17, at 17, 24-26.

50 O'Brien & Waehrer, supra note 11, at 15-18, 23-25.

51 Rock & Rubinfeld, supra note 20, at 13.

Their argument has several problems. First, they offer no evidence to think actual markets usually have the sort of sharp asymmetry they posit. The markets in which ΔMHHIs are high are generally oligopoly markets without sharp asymmetries, and O'Brien and Waehrer acknowledge that in symmetric oligopoly markets, horizontal shareholding will increase both price and MHHI.[52] Nor do they offer any evidence that only some airlines or banks had output flexibility in the studies they critique.

Second, to the extent such unusual asymmetries create the spurious negative correlation they posit, it actually makes the empirical studies conservative, because those studies find a positive correlation between ΔMHHI and prices despite any such spurious negative correlation in some markets where increased horizontal shareholding actually increased prices. Such spurious negative correlations would mean that horizontal shareholding increases prices even *more* than the empirical studies indicate.

Third, we can rule out the claim that increased demand might create a spurious positive correlation between ΔMHHI and prices, because the airline study showed that ΔMHHI not only increased prices but also *decreased* output.[53] That decrease in output is inconsistent with the claim that the correlation is driven by demand increases.

Fourth, O'Brien and Waehrer acknowledge that their critique does not consider many other control variables used in the airline and banking studies.[54] Since then, the airline study has added more tests that further confirm their results are not driven by any alleged endogenous effect of prices on market shares and MHHI levels. If price increases were causing increases in ΔMHHI, rather than vice versa, then higher prices should be correlated with later increases in ΔMHHI. An additional test showed they are not, whereas increases in ΔMHHI are correlated with later increases in prices.[55] Likewise, if price changes were causing changes in market share that changed ΔMHHI, then they should correlate even if one measured ΔMHHI using only smaller or short-term shareholders unlikely to exert influence. But additional tests show there is no such correlation and that instead the correlation between prices and ΔMHHI is driven almost entirely by the large long-term shareholders that are likely to exert influence over corporate decision-making.[56]

Fifth, the empirical studies had already used instrumental variables to address endogeneity concerns. Rock and Rubinfeld argue that the Delta/Northwest merger might be a confounding event, but the original airline study controlled for this merger and the revised version added further controls for it.[57] O'Brien and Waehrer complain that the airline study used an instrumental variable that controlled for the endogeneity of MHHI but not of HHI.[58] But the revised airline study controls for the endogeneity of HHI by using pre-period measures of HHI, and the result is an even *larger* price effect of 10-12 percent.[59]

To avoid the possibility that price effects might endogenously affect the firm market shares that are components of MHHI, Jacob Gramlich and Serafin Grundl instead use a measure that excludes the market share components of MHHI.[60] The problem with their approach is that the effect of horizontal shareholding on competition in fact depends not only on the level of horizontal shareholding, but also on firm market shares. Their measure thus effectively eliminates this endogeneity concern by using a measure that is far less relevant to anticompetitive effects. So it is not surprising that if one uses their measure, the effects become smaller and more mixed, as they find for the banking study. The revisions to the airline study provide far better ways of addressing any concern about endogenous effects on market shares without abandoning relevance to the anticompetitive concern.

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52 O'Brien & Waehrer, supra note 11, at 17.

53 Azar, Schmalz & Tecu, supra note 17, at 3, 23-24 & Table C.4.

54 O'Brien & Waehrer, supra note 11, at 25.

55 Azar, Schmalz & Tecu, supra note 17, at 18 & Table 5.

56 Id. at 4, 24-25 & Tables C.5-C.6.

57 Id. at 21-22.

58 O'Brien & Waehrer, supra note 11, at 25-26 & Table 7.

59 Azar, Schmalz & Tecu, supra note 17, at 3-4, 38 & Table 6.

60 Jacob Gramlich and Serafin Grundl, *Testing for Competitive Effects of Common Ownership* at 8-9 (April 21, 2017), https://www.federalreserve.gov/econres/feds/files/2017029pap.pdf.

Finally, O'Brien and Waehrer acknowledge that their critique also applies to the well-accepted use of HHIs in merger analysis.[61] They argue that this prevailing usage is fine because HHIs are just used to guide enforcement and as a rough gauge of likely anticompetitive effects. But that is no argument against my approach, which similarly uses MHHI and ΔMHHI to guide investigation and considers any other case-specific evidence bearing on the likelihood of adverse price effects from horizontal shareholding. Indeed, they admit that MHHI provides a rough gauge of the likely anticompetitive effects from horizontal shareholding.[62] Thus, their argument at most suggests that my approach is unduly conservative because, if their posited asymmetry ever actually existed and meant that stock acquisitions in a market might raise prices while reducing MHHI, those acquisitions might escape investigation under my approach. In contrast, if stock acquisitions resulted in a high MHHI and ΔMHHI, but some odd asymmetry made price effects unlikely in that market, that fact would come out in the investigation I recommend and thus not lead to over-enforcement.

V. THE GROWING EVIDENCE OF MACROECONOMIC HARM

My article argued that the anticompetitive effects of unchecked horizontal shareholding could also help explain some macroeconomic phenomena. Again, the evidence on this score has only become stronger.

First, my article showed that from 2000 to 2015, the U.S. experienced historically low corporate investment despite high profits and enormous fiscal and monetary stimulus.[63] As Krugman noted, the logical explanation was that anticompetitive market power was increasing profits by reducing output. But that raised the puzzle of what exactly was causing this increase in anticompetitive market power. I suggested that "perhaps" horizontal shareholding could "help explain" this phenomenon, both because horizontal shareholding was increasing dramatically during this period and because it was the one antitrust problem we were doing nothing about.[64] But I acknowledged it was "unclear" how large the macroeconomic effects of preventing anticompetitive horizontal shareholding would be.[65]

Professor Baker has questioned my analysis on the ground that while institutional investor ownership started rising in 1980, the divergence between corporate profits and investment did not begin until at least 2000.[66] However, recent work shows that the combination of growing institutional ownership levels and a shift to index funds reached a tipping point for horizontal shareholding starting in 1999, with the probability of two competing firms having a large common shareholder increasing from 16 percent in 1999 to 90 percent by the end of 2014.[67] This sharp rise in horizontal shareholding coincides with the period of growing divergence between corporate profits and investment. Baker also suggests that the divergence might not have begun until 2008, when the Great Recession began, but recent empirical work confirms that it began in 2000.[68]

To be sure, my article acknowledged that economic factors other than horizontal shareholding might also be contributing causes. But since my article, new empirical work has directly found that the gap between corporate investment and profitability is driven by the level of horizontal shareholder ownership in concentrated markets.[69] This new empirical evidence now affirmatively establishes a link between anticompetitive horizontal shareholding and the economy-wide lack of corporate investment that has contributed to low economic growth in recent decades. This new evidence also indicates that the driving cause cannot be general

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61 O'Brien & Waehrer, supra note 11, at 14-15, 16-17.

62 Id. at 34.

63 Elhauge, supra note 2, at 1281-83.

64 Id. at 1283.

65 Id. at 1290.

66 Baker, *Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge*, 129 Harvard L. Rev. Forum 212, 219 (2016).

67 Azar, supra note 4, at 2 & Figure 1.

68 Gutiérrez & Philippon, *Investment-Less Growth: An Empirical Investigation* a 2, 5-11 (December 2016), http://www.nber.org/papers/w22897.

69 Id. at 3-4, 29-35.

macroeconomic, technological or policy trends, such as recessions, increased automation, decreased productivity, a slowdown in technological innovation or government spending, taxes or labor law changes. If such general trends were the cause, they should result in a profit-investment gap across the economy; they cannot explain why the gap is instead driven by concentrated markets with high horizontal shareholdings.

Second, I observed that the rise in horizontal shareholding since 1980 has coincided with a rise in economic inequality that began in 1980, though I stressed that there were many other factors that could also explain this rise.[70] Since then, the evidence connecting horizontal shareholding to economic inequality has only gotten stronger. During the same 1999-2014 period when the probability that two competitors had a large common shareholder went from 16 percent to 90 percent, we have had the highest growth in corporate profits and greatest decline in labor's share of national income since World War II.[71] Further, the study showing that horizontal shareholding in concentrated markets has driven the gap between high corporate profits and low corporate investment confirms a connection to economic inequality. The reason is that those high corporate profits go to shareholders who are disproportionately wealthy and reflect high prices that are disproportionately born by the non-wealthy, and the lack of corporate investment depresses employment and wages in a way that also disproportionately harms the non-wealthy.[72]

VI. THE INCREASING CASE FOR ANTITRUST ACTION

My argument for an antitrust law remedy is straightforward. Clayton Act Section 7 bans any stock acquisition that substantially lessens competition. If horizontal shareholdings in some concentrated market are shown to create anticompetitive effects, then the stock acquisitions that created those horizontal shareholdings substantially lessen competition and thus violate the plain meaning of Clayton Act Section 7.[73] The solely-for-investment "exception" is not to the contrary because: (1) it requires a lack of influence that institutional investors typically do not satisfy; and (2) it is not actually an exception, but rather provides that investor passivity triggers a requirement to show that the substantial lessening of competition was intended or actually occurred (whereas without investor passivity, it suffices to show such anticompetitive effects "may" occur).[74]

The Rock/Rubinfeld Critique. Rock and Rubinfeld critique my antitrust law analysis.[75] But nothing in their critique explains how this statutory text can plausibly be interpreted to permit horizontal stock acquisitions that substantially lessen competition. Nor are any of their critiques individually persuasive.

First, they inaccurately assert that the only thing I cited for my antitrust law conclusion is the *Dairy Farmers* case.[76] Not so. I also cited the plain meaning of the statutory text, other cases, and the agency guidelines.[77] The only point for which I cited *Dairy Farmers* (and well as other sources) was simply that stock acquisitions that substantially lessen competition are illegal even if they do not confer control.[78] Rock and Rubinfeld assert *Dairy Farmers* is inapposite because on their reading of its facts there was control. But they ignore the reality that the pages of *Dairy Farmers* that I cited expressly stated, based on a review of Supreme Court caselaw, "We do not agree with the ... conclusion that a lack of control or influence precludes a Section 7 violation" because "even without control or influence, an acquisition may still lessen competition."[79] Rock and Rubinfeld's contrary claim that control is required also

70 Elhauge, supra note 2, at 1291-1301.

71 Azar, supra note 4, at 2 & Figure 2.

72 Elhauge, supra note 2, at 1292-97.

73 Id. at 1302-04.

74 Id. at 1305-08.

75 Rock & Rubinfeld, supra note 20, at 22-24.

76 Id. at 22.

77 Elhauge, supra note 2, at 1302-08.

78 Id. at 1303 & n.178, 1308 & n.203.

79 *United States v. Dairy Farmers of Am.*, Inc., 426 F.3d 850, 859–60 (6th Cir. 2005).

conflicts with all the authority collected in Areeda and Hovenkamp's antitrust treatise.[80]

Second, Rock and Rubinfeld inaccurately assert that for institutional investors I "largely concede[d] that the investments would fall within the first clause" of the solely-for-investment exception.[81] In fact, my article spent three pages explaining that this is untrue because institutional investors typically exert too much influence to be regarded as passive.[82] Since then, the Areeda/Hovenkamp treatise has expressly agreed with my conclusion, stating "among large institutional investors, complete passivity is exceptional."[83]

Third, Rock and Rubinfeld argue that the second clause of the solely-for-investment exception is satisfied for institutional investors because their usage of stock differs from the *DuPont* case, in which "the 'use' of the stock went beyond 'normal' corporate governance engagement (such as voting the shares and engaging with management on strategic direction)."[84] But *DuPont* never holds that activities beyond those "normal" shareholder actions are required to lose the passive investor exception, and such a holding would conflict with the reality that the second clause expressly denies the exception to passive investors "using the [acquired stock] *by voting or otherwise* to bring about, or in attempting to bring about, the substantial lessening of competition."[85] This statutory language cannot possibly be squared with Rock and Rubinfeld's claim that the exception applies when investors vote their shares in ways that help substantially lessen competition. As for the engagement on strategy that they would immunize, they themselves admit that "institutional investors routinely discuss with the managers of portfolio firms … suggestions … that increasing capacity might be ill advised."[86] The routine urging that firms refrain from capacity increases is precisely what one would expect from horizontal shareholders that want firms to refrain from competitively trying to expand market share because those shareholders have holdings in rival firms. It is implausible that influencing horizontal competitors to refrain from such capacity increases would not count as using stock to lessen competition.

Again, the legal literature has only gotten stronger since my article, with the Areeda/Hovenkamp treatise now expressly stating:

> a court's finding that the acquisition would probably tend substantially to lessen competition would necessarily mean that the acquirer so intended, objectively speaking. Consequently, its acquisition could not be solely for investment…. No general warrant exists for treating an institutional investor differently from other investors, and particularly not if the institutional investor votes its shares or otherwise seeks to influence a corporation's decision making. Even index funds often seek to influence the behavior of corporations in which they have an ownership interest…. In the event that such an acquisition is deemed to threaten sufficient anticompetitive results to satisfy the statutory effects clause, it should be illegal under §7.[87]

Fourth, Rock and Rubinfeld question my point that the courts have so far held the passive investor exception to be met only in cases where the investor effectively committed not to vote the acquired stock. But they admit such a commitment was made in *Tracinda*.[88] They claim that in *Anaconda* the acquirer, Crane, "made no commitments on how it would vote its shares."[89] But in fact the *Anaconda* court expressly relied on the fact that "Crane in open court agreed to amend this stipulation to include a prohibition

80 Areeda & Hovenkamp, Antitrust Law ¶1203.

81 Rock & Rubinfeld, supra note 20, at 23.

82 Elhauge, supra note 2, at 1305-07.

83 Areeda & Hovenkamp, Antitrust Law ¶1203c.

84 Rock & Rubinfeld, supra note 20, at 23.

85 Clayton Act § 7, 15 U.S.C. § 18 (emphasis added).

86 Rock & Rubinfeld, supra note 20, at 35.

87 Areeda & Hovenkamp, Antitrust Law ¶1204b.

88 Rock & Rubinfeld, supra note 20, at 19, 23.

89 Id. at 23.

against Crane's voting any Anaconda shares so as to bring about a substantial lessening of competition."[90] They also ignore the fact that a commitment not to vote was relied on in the *Gillette* case.[91]

Fifth, Rock and Rubinfeld reject my point that "even purely passive investors are liable for actual anticompetitive effects" based on their claims that my reading conflicts with the plain statutory language and that I cited "no authority in support of this reading."[92] In fact, I explained at length why the statutory language compelled my reading and cited several authorities for it.[93] Since then, the legal literature is even more contrary to their claim because the Areeda/Hovenkamp treatise now expressly agrees with my conclusion, stating:

> horizontal shareholding is reachable under §7 where the threat to competition is present…. One might think that such acquisitions may be immunized by the Clayton Act's 'investment only' exception if they are completely passive. As ¶1204 shows, however, the investment-only exception is really no 'exception' at all to the extent that any transaction or holding that threatens competitive harm fails to qualify.[94]

Baker's Concerns. Professor Baker acknowledges that horizontal shareholding could be anticompetitive and that my proposed antitrust remedy could be effective, but raises various concerns.[95] None, I think, prove telling.

He begins with the premise that my proposal would result in horizontal shareholdings being "summarily condemned" whenever the MHHI and ΔMHHI were sufficiently high.[96] His premise is mistaken. As I stated, my proposal was instead that the agencies should "investigate horizontal stock acquisitions that have created, or would create, a ΔMHHI of over 200 in a market with an MHHI over 2500, in order to determine whether those horizontal stock acquisitions raised prices or are likely to do so."[97] Baker argues that my analysis creates a presumption that is "nearly irrebuttable in practice" because a successful efficiency defense is unlikely.[98] But that does not follow. As discussed in Part IV, while high MHHI and ΔMHHI levels do indicate a likelihood of anticompetitive effects, defendants could under my approach always show that inference is not merited given the facts of their specific case. They do precisely the same now for mergers with high HHI and ΔHHI levels. Indeed, in every allowed merger with high HHI and ΔHHI levels, the defendants have relied on grounds other than efficiencies to successfully rebut the inference that anticompetitive effects were likely. So an efficiency defense has so far never been decisive in a U.S. merger case, yet no one believes this means the presumption created by high HHI and ΔHHI levels is nearly irrebuttable.

Baker then raises various concerns.[99] First, he argues that horizontal shareholders might sometimes also have vertical investments in suppliers or purchasers that would be harmed by reduced competition between the horizontally-related firms. But if horizontal shareholders have investments in suppliers or purchasers, those investments are also likely to be horizontal across competing suppliers and purchasers, so the shareholders would benefit from anticompetitive effects at multiple levels. Moreover, a large share of any firm's input supply will necessarily come from labor or small businesses, and any overcharge to corporate purchasers will mainly be passed on downstream to consumers. Because horizontal shareholders have no investments in labor, consumers or small business suppliers, horizontal shareholders will on balance benefit from anticompetitive effects, even if some

90 *Anaconda Co. v. Crane Co.*, 411 F. Supp. 1210, 1218 (S.D.N.Y. 1975).

91 Elhauge, supra note 2, at 1306 n.191.

92 Rock & Rubinfeld, supra note 20, at 24.

93 Elhauge, supra note 2, at 1305-08.

94 Areeda & Hovenkamp, Antitrust Law ¶1203c.

95 Baker, supra note 66, at 214.

96 Id. at 224.

97 Elhauge, supra note 2, at 1303.

98 Baker, supra note 66, at 224.

99 Id. at 225-31.

share of the anticompetitive harm were visited on other firms in which they were invested. In any event, if the horizontal shareholders could show that, in a specific case, no anticompetitive effects were likely given the shareholder incentives created by their vertical investments, then their horizontal shareholding would be legal under my approach.

Second, Baker observes that firms may operate in multiple markets, only some of which are harmed by horizontal shareholding. True, but the same issue exists for mergers of multi-market firms, and the answer is that Clayton Act Section 7 is violated by anticompetitive effects in "any line of commerce." Given this statutory language, the Supreme Court has held that anticompetitive harm in any market suffices to condemn an acquisition, even if other markets are unharmed or even benefited.[100]

Third, Baker argues that my approach will sometimes fail to condemn common shareholding that induces firms not to enter each other's markets, given that the very lack of entry may prevent the shareholdings from becoming horizontal. It is a nice point, but the only example he gives is the airline industry, for which reducing actual horizontal shareholdings would likely solve the problem. Nor is it clear how one could legally address the issue he raises of *potentially* horizontal shareholding. In any event, his point at most suggests my approach does not go far enough. Whether or not we cannot devise a legally administrable method for tackling concerns about potentially horizontal shareholding, failing to do so certainly provides no reason to allow actual horizontal shareholdings that are anticompetitive.

Fourth, Baker argues that my approach may insulate anticompetitive horizontal shareholding if, after a stock acquisition, a firm enters another market in a way that now makes that shareholding horizontal. If so, his point would again suggest my approach does not go far enough. But actually he is incorrect that my approach would insulate stock acquisitions that become anticompetitive due to post-acquisition changes. My article specifically took the opposite position.[101] My position is supported by the Areeda/Hovenkamp treatise, which observes that:

> changed circumstances may render unlawful the continued holding of noncontrolling stock whose original acquisition was lawful…. [C]ontinued holding of stock violates §7 if a current acquisition would do so. This conclusion is clearest when the anticompetitive threat results from subsequent active use of the acquired stock, but it is not limited to that case.[102]

Fifth, Baker argues that horizontal shareholders may raise efficiency defenses that he concludes should be rejected. I agree with him that the posited efficiencies are likely weak because avoiding horizontal shareholding (a) need not sacrifice any significant diversification or liquidity benefits, and (b) will actually improve corporate governance because institutional investors will acquire larger shares of the corporations in which they invest. Indeed, I made both points in my article.[103] But the possibility that bad efficiency defenses might be offered provides no reason to avoid condemning anticompetitive horizontal shareholding. If, to the contrary, any of these efficiency defenses prove meritorious and cognizable in a particular case, they would be admissible defenses under my approach.

Sixth, he argues that the empirical proof of anticompetitive effects may not be validated in industries other than airlines and banking. But the economic proofs about the incentive effects created by horizontal shareholding provide strong economic reasons to think the same sorts of effects are likely in other industries. Further, we now have new studies empirically confirming, across all industries, a general connection between horizontal shareholding and (a) anticompetitive forms of executive compensation, and (b) anticompetitive gaps between corporate investment and profits. In any event, my approach would simply investigate horizontal shareholdings that create high MHHI and ΔMHHI levels. If anticompetitive effects are disproven in any particular case, then my approach would not counsel for any antitrust liability.

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100 *United States v. Philadelphia Nat'l Bank*, 374 U.S. 321, 370–71 (1963).

101 Elhauge, supra note 2, at 1309.

102 Areeda & Hovenkamp, Antitrust Law ¶¶ 1203e, 1204.

103 Elhauge, supra note 2, at 1303-04, 1314-15.

The One Percent Solution. Posner, Scott Morton and Weyl agree with me that Clayton Act Section 7 bans horizontal shareholding that has anticompetitive effects.[104] But they argue for replacing my case-by-case approach with federal guidelines providing that "no institutional investor invested in more than a single (effective) firm in an oligopoly may own more than one percent of the industry or communicate with its managers."[105] I see various problems with their recommendation.

To begin with, federal guidelines cannot avoid the need for case-by-case adjudication. Such guidelines can help determine when the federal agencies bring cases, but when they do the courts will require them to show that the horizontal shareholdings in that case substantially lessen competition in order to prove a Clayton Act violation. Posner, Scott Morton, and Weyl argue that an FTC rule could be adopted. But the FTC's authority to issue rules on competition matters is unsettled and has never been exercised.[106] Nor would an FTC rule or federal guideline prevent states or private parties from bringing actions under Clayton Act or allow the DoJ to avoid the need to prove likely anticompetitive effects in any cases it might bring. Posner, Scott Morton, and Weyl also suggest Congress could legislate their proposed rule, but they admit that is "nearly impossible" in the near term.[107] Waiting for such legislation would thus amount to permitting all the anticompetitive effects of horizontal shareholding for the foreseeable future.

Even if such rulemaking or legislation were possible, it would be inadvisable because their test is quite over-inclusive and under-inclusive. For example, their test would condemn a single horizontal shareholder who holds 5 percent of every firm in a market, but (as noted in Part IV) other non-horizontal shareholdings could mean this single investor's 5 percent horizontal shareholding would produce a low ΔMHHI and unlikely anticompetitive effects. Their test would also, unlike mine, not allow horizontal shareholders to show that special factors make anticompetitive effects unlikely in their case.

As for under-inclusion, their test would immunize multiple horizontal shareholders that have one percent across all firms, even though their own analysis suggests that if five shareholders had one percent stakes in four horizontal competitors, their horizontal shareholdings would create 80 percent of the anticompetitive harm of pure monopoly pricing.[108] Also, because they limit their one percent test to oligopoly markets with a high HHI, they acknowledge their test can miss anticompetitive effects in low-HHI markets if atypical patterns of horizontal shareholding result in high MHHIs, even when the result is perfect monopoly pricing.[109] In contrast, because such cases have high MHHI and ΔMHHI levels and confirmed price effects, they would be correctly condemned under my test.

They argue that, given median management stockholdings of one percent and the most typical pattern of institutional shareholding, a one percent test corresponds fairly well to when ΔMHHI will exceed 200 in an oligopoly market with four equally-sized firms and an HHI of 2500.[110] This means their one percent test does provide a nice rule of thumb in oligopoly markets when other shareholdings are typical, but by the same token it means that one percent will be too high or too low if the other shareholdings are atypical. Rather than deciding cases based on the median/typical shareholding of others, it is more accurate to decide cases based on the actual shareholdings in the relevant case, as courts would require under Clayton Act Section 7.

The essential problem with their approach is that the anticompetitive effects of horizontal shareholding turn on market concentration and the collective impact of the shareholdings of *all* major shareholders in the relevant market. Those anticompetitive effects thus cannot accurately be captured by a test, like theirs, that turns on market concentration and the horizontal shareholding level of only *one* shareholder. One instead needs measures, like MHHI and ΔMHHI, which correctly consider market concentration

104 Posner, Scott Morton, & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors* at 8-9, 19-20 (March 22, 2017), https://ssrn.com/abstract=2872754.

105 Id. at 46.

106 Elhauge, U.S. Antitrust Law & Economics 11 & n.11 (2d ed. Foundation Press 2011).

107 Posner, Morton, & Weyl, supra note 104, at 34.

108 Id. at 16 & Figure 2.

109 Id. at 24.

110 Id. at 27-28.

and the shareholdings of all major shareholders in the market.

They raise two concerns about a test that is based on the shareholdings of all major shareholders.[111] First, such a test can make antitrust liability turn on the later investment decisions of other institutional investors. True, but the stock investments of institutional investors are publicly disclosed and, as noted above and recognized in the Areeda/Hovenkamp treatise, stock acquisitions that were lawful when made can often become unlawful because of subsequent events. Nor does their own test avoid the fact that antitrust liability will turn on later stock transactions. Their first example involves a two percent horizontal shareholder and a ΔMHHI that goes from 130 to 2000 because a non-horizontal shareholder sells its stock. But the two percent shareholder would not fall within their safe harbor, and as they themselves acknowledge, "It seems unlikely a suit against the 2% holder could succeed" when the ΔMHHI was only 130.[112] Thus, under their own approach, this two percent shareholder would go from no liability to liability because of the other shareholder's sale of stock. Another problem they consider is that the first horizontal investor acquiring more than one percent of stock in an industry may create little ΔMHHI or likelihood of anticompetitive effect. To account for this, they suggest that an agency using their one percent test should "pursue a litigation strategy in which it waited for several institutional investors to acquire small stakes and then sue all of them."[113] That strategy effectively means that, under their approach, the first horizontal stock acquisition over one percent would initially not face a risk of antitrust litigation, but would if other similar horizontal acquisitions followed.

Their second concern is that when a high ΔMHHI creates anticompetitive effects, all the major horizontal shareholders who contribute to this high ΔMHHI would be liable, even though changing any individual shareholding might have a small incremental effect on ΔMHHI. But it makes perfect sense for all the major horizontal shareholders who contribute to the anticompetitive effect to be held liable because those anticompetitive effects turn on the collective effect of their horizontal shareholdings. The Supreme Court has long used a similar collective approach to antitrust liability for the anticompetitive effects created when multiple firms use foreclosing exclusive dealing agreements.[114] Likewise, *Leegin* dictates such a collective approach for any oligopoly-facilitating effects created when multiple manufacturers use resale price maintenance.[115] Nor does their test avoid this issue, because in their second example all the shareholders would be liable under their test, even though each shareholder's individual incremental contribution to ΔMHHI is small.[116]

Finally, they argue that investors might have a hard time predicting market definition.[117] That is a valid point, but it applies equally to all approaches and indeed to current merger analysis. It might provide good grounds for agencies to provide advance notification of likely market definitions. But the downside is that those advance notifications might become inaccurate with changing demand and technologies or later be rejected by courts. In any event, if advance notification of market definitions were deemed advisable, it could be used whether one uses (1) their test of condemning any horizontal shareholder with more than one percent of stock in a market with an HHI over 2500, or (2) my proposal to investigate horizontal shareholdings that produce an MHHI over 2500 and ΔMHHI over 200 and condemn them when they seem likely to produce anticompetitive effects.

111 Id. at 9, 20-21.

112 Id. at 20.

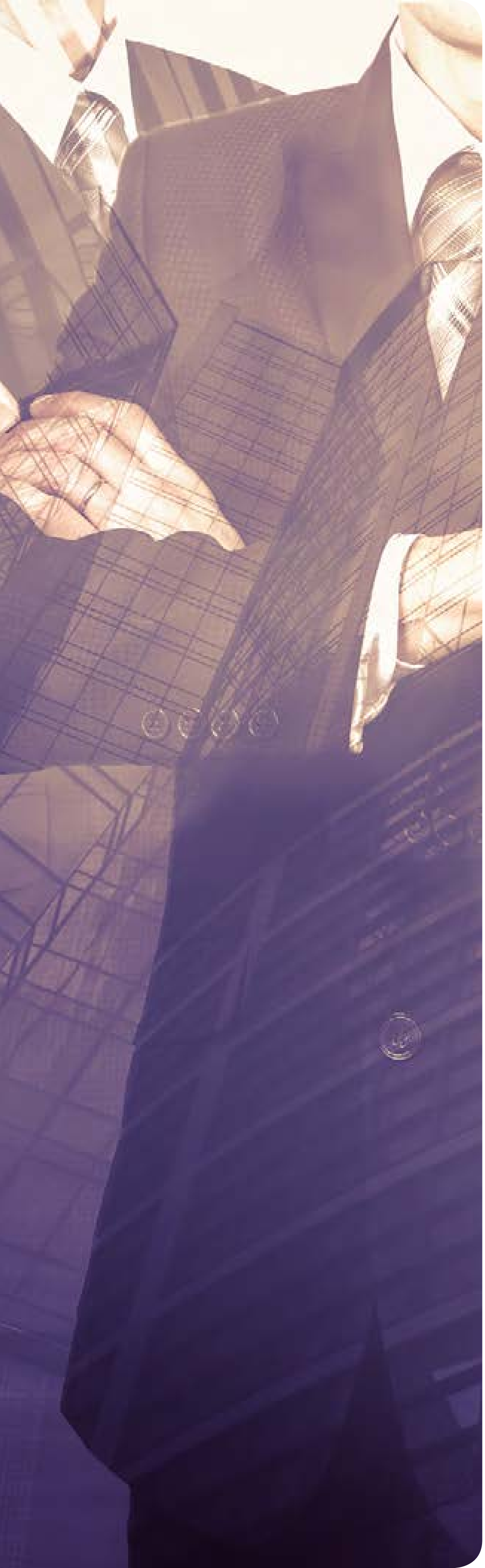
113 Id. at 33.

114 F*TC v. Motion Picture Advertising Service*, 344 U.S. 392 (1953); Elhauge, supra note 147, at 343-46.

115 *Leegin Creative Leather Products v. PSKS, Inc.*, 551 U.S. 877, 897 (2007).

116 Posner, Morton, & Weyl, supra note 103, at 20-21.

117 Id. at 21.



THE NEW MANDATE OWNERS: PASSIVE ASSET MANAGERS AND THE DECOUPLING OF CORPORATE OWNERSHIP

BY CARMEL SHENKAR, EELKE M. HEEMSKERK & JAN FICHTNER [1]

I. INTRODUCTION: THE NEW CONCENTRATION IN CORPORATE OWNERSHIP

A fundamental change is underway in stock market investing. In the past, individuals and large institutions mostly invested in actively managed mutual funds, such as Fidelity, in which fund managers pick stocks with the aim of beating the market. But since the financial crisis of 2008, investors have shifted to passively managed funds which replicate established stock indices (the S&P 500, for example). The magnitude of the change is astounding: from 2007 to 2016, actively managed funds have recorded outflows of roughly US$1,200 billion, while index funds registered inflows of over US$1,400 billion. In the first quarter of 2017, index funds brought in more than US$200 billion – the highest quarterly value on record. Some observers have called it the "democratization of investing," as it significantly reduced investor expenses. Others are more critical and worry about implications of index investing that may undermine the price setting mechanism in equity markets.

In contrast to the fragmented and sizeable group of actively managed mutual funds, the fast-growing index fund sector is highly concentrated. It is dominated by just three giant U.S. asset managers: BlackRock, Vanguard and State Street – what we call the "Big Three." Together they stand for a stunning 71 percent of the entire Exchange Traded Fund (ETF) market and manage over 90 percent of all Assets under Management ("AuM") in passive equity funds. As a consequence of this leading role in the market for passive investment, the Big Three have become dominant shareholders. Seen together, the Big Three are the largest single shareholder in almost 90 percent of all S&P 500 firms, including Apple, Microsoft, ExxonMobil, General Electric and Coca-Cola.[2] Such concentration of corporate ownership is remarkable and may not have been seen since the days of the Gilded Age.

1 Carmel Shenkar, Legal Researcher, Eelke M. Heemskerk, Associate Professor & Jan Fichtner, Postdoctoral Researcher; all CORPNET Project, Department of Political Science, University of Amsterdam.

2 Fichtner, Heemskerk & Garcia-Bernardo, *Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk*, 17 Business and Politics, 1 (2017). doi: 10.1017/bap.2017.6

The findings of high levels of concentration in the passive index fund industry have led several highly respected scholars and practitioners – some of whom have provided contributions for this special issue – to raise concerns about possible anticompetitive effects of common ownership through the Big Three. These authors argue that common ownership may have detrimental effects on consumer price levels, and therefore they propose policy measures and regulatory tools to address this development.[3]

BlackRock has recently responded to these concerns.[4] Among others, they argue that the common ownership studies are based on the misleading assumption that asset managers such as BlackRock own the shares held by their funds. They point out that the shares are acquired by multiple separate investment funds; BlackRock itself, for instance, has more than 100 index funds and over 800 Exchange Traded Funds. Ownership therefore does not reside at the level of BlackRock as a group, they argue, but rather at the level of individual funds. Allegedly, if the shares are not *owned* by the same legal person, the person cannot influence the policies and actions of rival companies. The common ownership studies are flawed, so they argue, because they rely on data which does not indicate *ownership*, as it relies on "threshold reporting." According to BlackRock, this is a mere statutory requirement which does not represent a record of the true economic owner of the shares. In fact, they further imply that not even the funds are the true "owners" of the shares, but rather the clients that ultimately invest in their funds.

In what follows we propose an updated view of ownership in equity markets, and argue that asset managers such as the Big Three can in fact be seen as the relevant owners from the perspective of corporate control. We adopt a contractual approach to the corporate share and suggest that the ability to exercise *de facto* power over the voting or disposition of equity securities is a constituent element of what we call "mandate ownership." This is precisely the type of ownership passive asset managers hold. We further argue that aggregated mandate ownership positions hold the critical element of shareholding most relevant to corporate control. We therefore submit that "threshold reporting" is not a mere statutory requirement; but rather part of a comprehensive regulatory scheme that goes beyond disclosure and exposes where power over corporations actually resides. As such, this information is relevant in light of the concerns regarding the potential anticompetitive effects of common ownership.

We proceed as follows. First, we present the contractual approach to corporate shares and explain the *asset management decoupling*. Then we show that Section 13(d) of the Securities Exchange Act (1934) supports interpretation of mandate ownership. Finally, we take mandate ownership beyond Section 13 and link it to the element underlying the franchise of corporate voting, thereby showing its significance to corporate control. We conclude with some observations and open questions.

II. A CONTRACTUAL VIEW OF THE CORPORATE SHARE

Financial instruments are often seen as traditional "assets." Traditional "assets" are governed by property law, where ownership is defined only in certain acceptable, albeit limited, ways.[5] Under such view, the owner of a corporate share is the person who invested the money to purchase the security: the "purchaser." The "purchaser" holds a right to the share, and this right is inherent in the asset. However, a financial asset, unlike a real asset, is intrinsically a contract: a contractual promise.[6] As contracts, financial assets are governed by a different set of rules. Under contract law, the parties to a contract may agree on almost any legal terms, and they can either grant or limit the transfer of contractual rights to third parties.[7] A contractual view of share ownership, therefore, does not consider the purchaser's rights to be inherent in the asset. The relevant "owners" of the asset under this view, are not "purchaser" and "provider"; but "parties" with a mandate that empowers them to exercise discretion over the asset's (i.e. contract) decision-making. The contractual nature of financial assets makes possible the various decoupling techniques and derivatives-based

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3 E.g. Azar, Schmalz & Tecu, *Anti-Competitive Effects of Common Ownership*, Ross School of Business Working Papers 1235. http://dx.doi.org/10.2139/ssrn.2427345, at 34-36 (2016); Elhauge, *Horizontal Shareholding*, 129 Harvard L. Rev. 1267 (2016); Posner, Scott Morton & Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, Antitrust Law Journal, Forthcoming. Available at SSRN: https://ssrn.com/abstract=2872754 (March 22, 2017).

4 BlackRock, viewpoint on *Index Investing and Common Ownership Theories*, March 2017 (see: https://www.blackrock.com/corporate/en-gb/literature/whitepaper/viewpoint-index-investing-and-common-ownership-theories-eng-march.pdf)

5 Frankel, *The New Financial Assets: Separating Ownership from Control* 33 Seattle U. L. Rev. 931, 934 (2010).

6 Id.

7 Id.

separation of voting power from financial interests.[8] To reflect the contractual nature of the corporate share, and to contrast with the property nature of traditional views, we refer to two updated types of owners: those holding *entitlement ownership* (the traditional "purchaser," or as sometimes referred to "end-investor") and those holding a *mandate ownership* (or "record holders").

III. ASSET MANAGEMENT DECOUPLING

The decoupling of economic and control rights has not been restricted to derivatives. An expanding intermediary level of large asset managers has led to increasing divergence between the interests of so called "record holders" and those of "beneficial owners."[9] The proxy system separates between intermediary record holders (the investment funds) and the holders of entitlement to economic benefits of a referenced share.[10] Entitlement holding, thus, reflects not a right to the securities, but a right to receive from the intermediary benefits in a proportion equal to what the holder would have received had they held the actual share.

A double contract structure is therefore introduced: the entitlement owners provide capital according to their contractual relationship with the institutional intermediary (governed by, for instance, an investment management agreement or prospectus), and thereby assume all the risk. The intermediary enters into a separate contractual relationship with the issuer (the share), retains complete authority over investment decisions, and gives back to entitlement owners *only* the economic benefits equal to their part in the referenced share. Ownership is consequently re-structured.

However, decoupling does not stop there. The major shift toward passively managed index funds in recent years and its subsequent concentration[11] has led to the creation of another step: the voting power that the funds as intermediaries traditionally retained is now being harnessed by the parent asset management firm, taking decision making further away from where the risk lies. The consequences are currently not fully known and, in any case, go beyond the scope of this article. Yet, share ownership, as we will next show, refers precisely to the type of share holding that intermediaries – and now, so unprecedentedly, the Big Three – have.

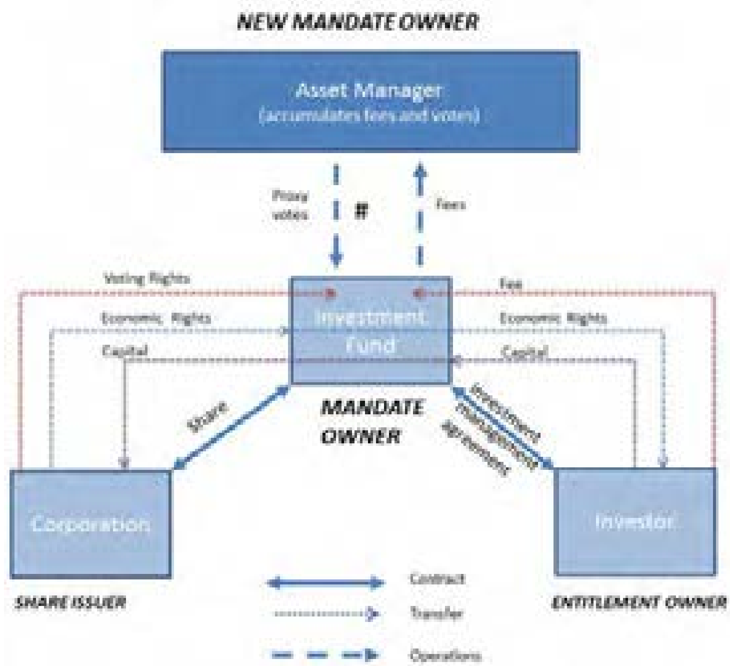

Figure 1: Asset Management Decoupling through Mandate Ownership

8 On derivative-based decoupling: e.g. Hu & Black, *The New Vote Buying: Empty Voting and Hidden (Morphable) Ownership*, 79 South. Cal. L. Rev., 811 (2006); Hu & Black, *Equity and Debt Decoupling and Empty Voting II: Importance and Extensions* 156 U. of Penn. L. Rev. 625 (2008); Hu, *Financial Innovation and Governance Mechanisms: the Evolution of Decoupling and Transparency* 70 Business Lawyer 347 (2015).

9 Gilson & Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights* 113 Columbia L. Rev. 863,889-896 (2013) (referring to institutional investors).

10 SEC Concept Release on the US Proxy System, July 2010, Release No. 34-62495, 11-21.

11 Fichtner *et al.*, supra note 2.

IV. WHO IS THE OWNER? REREADING SECTION 13(D) THE SECURITIES EXCHANGE ACT (1934)

SEC Rule 13d-3 sets a dual test for "beneficial ownership" of equity securities. It identifies beneficial ownership as the possession of *either* the power to vote (or to direct voting) *or* the power to dispose (or direct the disposition) of securities, *or both*.[12] Under this test at least one condition is required for ownership determination, but any of the two satisfies the requirement. The possibility of sharing the power means that more than one person can beneficially own a share. A person can therefore acquire beneficial ownership in equity securities without having any property right to residual value.

Yet Section 13(d) and its applicable rules do not only support an interpretation of mandate ownership. They place the ability to exercise *de facto* power above any formal legal title to the share, and make it in fact superior to any other type of ownership. The SEC has formally recognized the supremacy of the *ability to exercise de facto power* over any *formal title to the share* as a constituent element of beneficial ownership, by explicitly indicating that "the mere possession of a legal right to vote is not determinative of who is the beneficial owner *inasmuch* as another person has the power, whether legal, economic or otherwise to direct such voting."[13]

The supremacy of *de facto* power over legal title is clear from two additional elements of the Rules. First, the regulator extended "beneficial ownership" to include persons holding a right to own any time within 60 days, not only those who currently own, equity shares. The emphasis is on whether a person is legally entitled to relocate the power of the share (in this case, place it at their own disposal); i.e. to change (within 60 days) the identity of the person who may exercise the voting and/or investment power. Second, the exemption to record holders who may vote on some matters without instruction from the individual for whom they hold the stock, only exempts one class of record holders: those who can vote without instruction on matters "other than contested matters or matters that may affect substantially the rights or privileges of the holders of the securities to be voted."[14] This exemption, in fact, supports the general rule. Except for the limited cases where the exemption applies, if one person holds the legal right to vote while another has the actual power to decide the voting, only the person able to direct the voting must disclose.[15]

The ability to exercise *de facto* power over decision making is the essence of mandate ownership. This implies that at least asset managers such as BlackRock, State Street and Vanguard are mandate owners through their funds. Recent research into the proxy voting of the funds within the Big Three shows extremely high levels of voting consistency, by studying proxy votes at Annual General Meetings where asset managers invest through at least two separate funds. At BlackRock, in only 18 per 100,000 proposals, one of their funds did not vote along with the other funds, and for Vanguard this is even more consistent with only 6 per 100,000 of the proposals receiving mixed votes.[16] The findings suggest that these asset managers coordinate proxy voting across their funds, which is in line with their recent efforts to set up and expand corporate governance departments at the group level. This observation leads to the conclusion that the Big Three have now acquired mandate ownership status at the group level, as it is precisely at this level where the *de facto* power over decision making rests.

This conclusion may not be disputed by the asset managers themselves in relation to reporting obligations (under either Section 13d or 13g); indeed the Big Three (and others) report their aggregated positions. The question we now ask is whether mandate ownership goes beyond "threshold reporting"? We propose that it does. Asset management decoupling, combined with voting power coordination, make the accumulated ability of the new mandate owners to exercise *de facto* power over corporate shares increasingly relevant for the market for corporate control: these positions seize and encapsulate the core element of the franchise of corporate voting.

12 17 CFR § 240.13d-3.

13 Adoption Beneficial Ownership Disclosure Requirements, Exchange Act Release No. 13291, 42 Fed. Reg. 12342, 12344 (1977).

14 17 CFR § 240.13d-3(d)(2).

15 *Calvary Holdings Inc., et al. v. Burton Chandler*, 948 F.2d 59, 63 (1st Cir. 1991).

16 Fichtner et al., supra note 2, at 20.

V. THRESHOLD REPORTING FOR CORPORATE CONTROL: EXTENDING MANDATE OWNERSHIP

A. Aggregated reporting of beneficial ownership ensures the accurate disclosure of the accumulated ability to exercise de facto power

Two scenarios where the rules require aggregated-position reporting suggest that aggregation aims to expose otherwise hidden accumulations of mandate ownership. First, members of a group (as defined by the Rule) are required to file a statement and report their collective ownership.[17] By requiring groups to report information on their collective aggregated level of ownership, the regulator created a mechanism whereby persons conspiring to act in a concerted manner in relation to specific equity securities (and therefore holding market-sensitive relevant information) cannot hide behind the absence of formal written agreements[18] or the fact that they did not formally purchase additional shares.[19] The sufficient element to constitute such group-level aggregated reporting obligation, is that the persons are combined in furtherance of a common objective.[20]

Second, the SEC has recognized that certain organizational groups are comprised of parents and affiliated business units that operate independently of each other.[21] It then specifically noted the extent to which the affiliated units exercise voting and investment powers independently, as the main factor to determine the parent's reporting obligations.[22] In other words, only when the organizational structure confers mandate ownership on the parent, the shares of the affiliated units are counted toward the parent's reporting threshold. In all other cases, attribution is not required. Aggregation here, again, is designed only to expose accumulation of mandate ownership.

B. Disclosing the accumulated ability to exercise de facto power links mandate ownership to the market for corporate control

The target beneficiaries of the disclosure regulatory scheme are the investors participating in the corporate control market. The requirement to aggregate all securities beneficially owned, regardless of the form which such beneficial ownership takes[23], implies an instrumental - not arbitrary - nature to disclosure. The mechanism is designed to draw attention to otherwise hidden large accumulations, by ensuring the disclosure of all market-sensitive data about changes in the identity of those who are able, as a practical matter, to influence the use of the shares' power.[24] The requirement to aggregate mandate-ownership positions and the five percent threshold,[25] together confine reporting *only* to the type of information which is relevant to the decision making of other investors on issues involving corporate control.

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17 17 CFR § 240.13d-5(b).

18 *Wellman v. Dickinson*, 682 F.2d 355, 363 (2d Cir. 1982); *Hollywood Realty Partners, L.P. v. Gotham Partners, L.P., et al.*, 286 F.3d 613, 617 (2d Cir. 2002).

19 *GAF Corp. v. Milstein*, 453 F.2d 709, 718 (2d Cir. 1971).

20 *Wellman v. Dickinson*, 682 F.2d 355, 363 (2d Cir. 1982).

21 *Amendments to Beneficial Ownership Reporting Requirements*, Exchange Act Release No. 39538, 63 Fed. Reg. 2854 (1977)

22 Id, at 2857.

23 17 CFR § 240.13d-3(c)

24 *SEC v. Drexel Burnham Lambert Inc.*, 837 F. Supp. 587, 607 (S.D.N.Y. 1993) (citing 3 Securities Law Techniques § 70.07[2][c] (A.A. Sommer, Jr. ed., 1987)).

25 17 CFR § 240.13d-1

The exemption from Schedule 13D filing given to Qualified Institutional Investors[26] ("QIIs") shows the instrumental nature of disclosure. While QIIs are still the beneficial owners of corporate shares, they presumably acquire securities in the ordinary course of their business and not with a control purpose or effect.[27] The market-sensitive information they hold, therefore, is considered less crucial for the market in the immediate term.[28] Nevertheless, the exemption depends on their practice (the manner in which they manage the investment), not their status. Where sufficient evidence suggests otherwise, the presumption is rebutted, making their ownership reportable on Schedule 13D.[29] This option of losing and re-establishing Schedule 13G eligibility only makes sense if "threshold reporting" is instrumental, not arbitrary.

C. Aggregated mandate ownership positions capture the element of share holding that forms the basis for the franchise of corporate voting

The orderly operation of the market for corporate control relies on legal tools to balance between independent decision-making of corporate management and the interests of shareholders. Shareholding in the context of corporate control, however, reflects only the elements of share ownership that make such owners the appropriate franchise for corporate voting. Shareholding as the basis for the franchise of corporate voting is founded on the assumption that shareholders are the most suitable constituents to trigger the corporate control mechanism, since the best signal for identifying board errors is the stock price.[30] Corporate voting, therefore, does not rely on shareholders; it relies on share-*mandate*-holders. The aggregated position of mandate owners (and "new mandate owners") is thus not an arbitrary statutory threshold. It is a regulatory formula designed to expose where power over companies actually resides.

The power of shareholders voting is reflected, for example, in the practice of judicial review of boards' fiduciary after *Corwin*.[31] While Delaware generally refers to the business judgment rule as the default standard of review; in situations where the realities of the decision making context can subtly undermine the decisions of even independent and disinterested directors,[32] applicants challenging the decision can rebut the presumption, showing the board was interested, not sufficiently informed or otherwise did not act in good faith.[33] After *Corwin*, however, a voting of un-coerced, fully informed, and disinterested holders of a majority of the shareholders, seems to significantly limit the available means for challengers of a board's decision; leaving them with only very few, if any, options to successfully plead due care liability.[34] The power of shareholders voting to determine the judicial standard of review in change-of-control transactions is only one example showing that in fact mandate owners, as the franchise of corporate voting, are the only constituent to which corporate managers are accountable.

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26 17 CFR § 240.13d-1(b)

27 17 CFR § 240.13d-1(b)(1)(i). The exemption allows greater margin in corporate governance activities than the passive investment exemption in antitrust regulation.

28 17 CFR § 240.13d-1(b)(2). The reporting schedules and required information are thus different than those of other non-passive beneficial owners. While the presumption may be debatable in light of various statements made recently by large institutional investors; the full debate is beyond the scope of this present article.

29 17 CFR § 240.13d-1(e).

30 Thompson & Edelman, *Corporate Voting*, 62 Vanderbilt L. Rev. 129, 149 (2009).

31 *Corwin v. KKR Fin. Holdings LLC*, 125 A.3d 305 (Del. 2015).

32 *Reis v. Hazelett Strip-Casting Corp.*, 28 A.3d 442, 457 (Del. Ch. 2011); *Aronson v. Lewis*, 473 A.2d 805, 812 (Del. 1984).

33 *Revlon, Inc. v. MacAndrews & Forbes Holdings*, 506 A.2d 173, 180 (1986); *Unocal Corp. v. Mesa Petroleum Co.*, 493 A.2d 946, 955, 957 (Del. 1985); *Aronson v. Lewis*, 473 A.2d 805, 812 (Del. 1984).

34 *Corwin v. KKR Fin. Holdings LLC*, 125 A.3d 305, 312 (Del. 2015).

IV. CONCLUSIONS

The Big Three are the new mandate owners to the extent that they coordinate the otherwise independent decision making of their different funds. Evidence from our previous research suggests they do.[35] Their power as mandate owners exists irrelevant of any entitlement positions. They are, as we argue, the relevant owners when it comes to issues of corporate control as they hold the *de facto* power over decision making. This power is derived from the sizable portions of mandate ownership they have accumulated and the influence this gives them over corporate decision making. While they may indeed be passive investors and will not "exit" underperforming firms by selling their shares, they are not passive owners. There is no doubt they exert considerable and increasing influence over much of Corporate America.[36]

We like to point out that this power exists irrelevant of any empirical evidence on anticompetitive effects. Leaving aside questions of effects on price levels or formal definitions of ownership and passivity in antitrust regulation; there can be little doubt that mandate owners hold precisely the kind of power that makes a difference for corporate business strategies, including competition-policy decisions. Mandate ownership positions capture the core element of shareholding which matters most to corporate management: the power to vote. Referring back to our proposed model (Figure 1), when corporate managers make business decisions, their outlook is confined only to their contractual relationship with mandate owners. They need not look any further. As far as they may be concerned, accountability ends with the one who casts the vote.

BlackRock noted that "[e]ngagement via voting is a means for long-term investors, whose money is managed by asset managers as fiduciaries, to have a voice in corporate governance."[37] Our proposition does not dispute this claim. We simply note that exercising *de facto* power over proxy voting of multiple funds constitutes mandate ownership. Fiduciary duties do not invalidate acquisition of mandate ownership. Rather, fiduciary obligations are part of the (separate) contractual relationship between the mandate, and entitlement, owners.

The question of Fiduciary responsibility, however, does raise an important issue. The new mandate owners are burdened with a nigh impossible task: they must reconcile an overwhelming amount of conflicting Fiduciary duties and conflicts of interest. The success of their business model of passive investment has now put them center stage in corporate governance as new, very large, mandate owners. From our perspective, this leading position comes with responsibilities. Already the asset managers are keen to increase their transparency on voting and engagement practices. Given their pivotal new power position in corporate decision-making we expect further steps to be taken towards even more transparency and also towards predictability. The Big Three can move beyond general principles or policy statements and make specific commitments with enforceable accountability mechanisms. Such adaptations, however, necessarily come at a cost. From a business perspective, the fear of losing clients and of rising costs may deter such policy changes. Moreover, enforcement of more specific voting guidelines would almost inevitably bring to the fore the enormous (yet still latent) influence of the three largest new mandate owners: BlackRock, Vanguard, and State Street. For now, at least, the question remains open: are the new mandate owners in fact willing, or even able, to carry such a burden?

35 Fichtner et al., supra note 2.

36 Fichtner, Heemskerk & Garcia-Bernardo, *These three firms own corporate America*, The Conversation. Available at: https://theconversation.com/these-three-firms-own-corporate-america-77072 (May 10, 2017).

37 BlackRock, supra note 4, at 12.

PRIVATE EQUITY AND EU MERGER CONTROL – SELECT ISSUES

BY LUCA CROCCO, TOMAS NILSSON & STELLA SARMA[1]

  

I. INTRODUCTION

Private equity ("PE") refers to investments by funds comprising pooled commitments of private capital in equity in unlisted companies, or in taking listed companies private, and encompasses a diverse range of transactions, from management buyouts ("MBOs") and buyins to leveraged buyouts ("LBOs"), growth capital and secondary buyouts (sale from a PE firm to another PE firm). PE plays an important role in all developed economies and has been a significant driver of the latest "merger waves." In 2016, according to statistics by assets data intelligence firm Preqin, nearly 4,000 PE deals were announced for a total deal value of approx. US$ 319 billion globally and US$ 90 billion in Europe.

As PE funds expand the reach of their activities to new geographies and industries, their deals have come to represent a sizable share of the merger control activity of antitrust regulators across the world. Most PE acquisitions raise fewer concerns than industrial consolidation, given that they often do not involve any overlaps with the target business. However, as PE firms' portfolios grow in scope, antitrust regulators increasingly assess vertical links between the target and the other portfolio companies of the PE acquirer. Competition issues may also arise in the context of "bolt-on" acquisitions by a PE portfolio company, where the PE firm consolidates and restructures several companies active in the same or neighboring segments to maximize the value at the moment of exit.

This article gives a concise overview of three sets of recurring topics in the merger control practice of the European Commission ("Commission") involving PE deals: jurisdictional issues – in particular the different control scenarios over the portfolio companies and the target company –, procedural and substantive issues.

1 Latham & Watkins LLP, Brussels. The authors want to thank Marc Williamson and Simon Cooke of Latham & Watkins for their comments and edits.

II. JURISDICTIONAL ISSUES

A. Control of the PE Firm Portfolio

Large PE firms are often required to submit merger filings because they exceed the applicable thresholds, despite lacking any real overlap with the target company. This happens because the Commission and many other regulators require that the financial income of the PE funds as well as the revenues from industrial activities of all controlled portfolio companies be counted toward the turnover or assets thresholds. In particular, the Commission takes the view that the investment company (often called the "sponsor") that has set up and manages the PE fund usually exercises (indirect) control over the portfolio companies, rather than the fund itself, which is often just an investment vehicle. As explained by the Commission Consolidated Jurisdictional Notice, para 15:

> Typically, on the basis of the organisational structure, in particular links between the investment company and the general partner(s) of the different funds organised as limited partnerships, or contractual arrangements, especially advisory agreements between the general partner or the investment fund and the investment company, the investment company will indirectly have the power to exercise the voting rights held by the investment fund in the portfolio companies.

Treating the various portfolios as a single undertaking does not always reflect the reality of PE firms, particularly the bigger ones that may have several funds in operation, each accountable to different groups of investors, in different geographies and with safeguards in place to avoid coordination between portfolio activities (such as non-disclosure agreements or "Chinese walls").

Three jurisdictions stand out as an exception to the "monolithic" view of PE firms: the U.S., Canada and Brazil, which all three follow a "fund-based approach." Brazil, which used to be a frequent filing destination of PE firms, shifted to a fund-based approach only recently. Under current Administrative Council for Economic Defense ("CADE") policy, the revenues of each buyer fund (rather than of the PE firm as a whole) are considered separately and calculated by adding up the revenues of the portfolio companies controlled by the buyer fund and those in which the buyer fund has an interest of at least 20 percent. The revenues of any investors with at least 50 percent of the buyer fund, either individually or by virtue of an investor's agreement, are also included. The revised policy has caused a drop in the number of filings submitted. On the other hand, CADE will continue to look at the entire portfolio of the PE firm when assessing overlaps and vertical links.

B. Sole Control of the Target

Unlike venture capital investments or investments by institutional shareholders, PE acquisitions regularly result in a change of control of the target. In the US and Europe, acquisitions of exclusive control by the PE firm are by far the most common. While the PE firm will normally acquire the entire share capital of the target or a majority interest, sole control may also arise in situations when the PE firm is the only shareholder able to veto strategic decisions in the target business – so-called "negative sole control." For example, the EC concluded in M.5949 *Deutsche Bank/Actavis*, that:

> whilst Deutsche Bank ("DB") does not have the power to on its own to impose decisions regarding the commercial strategy of Actavis, it has the power to appoint three out of seven members of the Board and to block the appointment of the chairman, a power that is not enjoyed by any other shareholder. DB may thus be considered to hold negative sole control over Actavis.

C. Joint Control

A frequent scenario is that of joint control, for instance by two or more PE funds or by a PE fund and the founders of the target company or a strategic shareholder. The most common form of joint control results from equality in voting rights (a 50/50 joint venture) or equal representation in the decision-making bodies of the target company. However, joint control may also occur when minority shareholders have rights, which allow them to veto decisions that are essential for the strategic commercial behavior of the joint venture. These rights, which may be granted in the by-laws of the joint venture or in a shareholders agreement, must be related to strategic decisions on the business policy of the joint venture as well as go beyond the veto rights normally accorded to minority shareholders in order to protect their financial interests. Veto rights that typically confer joint control include veto rights over decisions on matters such as the budget, the business plan, major investments or the appointment of senior management.

The existence of joint control over the target business increases the likelihood that the parties will have to request approval for the transaction in the EU and in other jurisdictions. Under EU merger control rules, as well as in other important jurisdictions like China or Turkey, a filing is triggered when "at least two parties" are above certain turnover or asset thresholds. When big PE firms are involved in the acquisition, the condition may well be met by the parent companies alone, regardless of the (lack of) revenues or assets of the target. For example, in M.7386 *KKR/Riverstone/ Trinity*, KKR and Riverstone had to report the acquisition of joint control over Trinity River Energy, which had oil and gas assets in the U.S. but had no sales in Europe. The Commission is currently reassessing whether to continue requiring notification of so-called "zero revenue joint ventures" and it is hoped that it will follow the more pragmatic approach of the authorities in Brazil and Germany, where joint ventures with no revenues in the country will escape the need for a filing even if technically the turnover thresholds are exceeded.

Finally, it must be stressed that a minority shareholding, even if significant, is unlikely to give rise to joint control without the ability to formally veto strategic decisions, particularly when the holder of the shares is a PE firm rather than strategic shareholder. An example is M.7987 *Ardian France/F2i SGR/F2i Aeroporti*, where joint control over F2i Aeroporti was acquired by a shell company in which the PE firms Ardian and Crédit Agricole Assurances ("CAA") held respectively 60 percent and 40 percent of the shares. The Commission ruled out joint control by CAA on the basis that the company did not have a full-fledged veto right on the strategic commercial decisions of the target but rather a mere right of consultation.

D. Management Control

Another frequent occurrence in PE transactions is that the PE firms pay part of the purchase price by granting shares to the founders or the management (so called "rolled equity" or "management rollover"). This ensures an alignment in the interests of the buyer and the sellers, and continuity in the management. Under EU merger control rules, individuals such as founders and managers may acquire sole or joint control of an undertaking if they are classified as economic undertakings in their own right or if they control at least another undertaking (see Article 3(1)(b) of the EU Merger Regulation and para 151 of the Consolidated Jurisdictional Notice. For an application in the PE context, see M.7987 *Towerbook Capital Partners/Infopro*).

Even when this requirement is satisfied, for management control to arise, the individuals in question must have the ability to veto strategic commercial decisions of the business. The mere appointment of the individual to a management position, even in conjunction with a shareholding in the company, is not *per se* sufficient to grant control if it can be revoked unilaterally by the majority shareholder, nor are veto or consultation rights on non-strategic matters. Another frequent scenario involves managers pooling their interests in a management vehicle to act as a single voice and facilitate decision-making. The question in those scenarios is whether control is acquired by these individuals (provided that they satisfy the requirement of Article 3(1)(b) of the EU Merger Regulation) or by the joint venture itself. Paragraphs 152 and 147 of the Consolidated Jurisdictional Notice suggest that when the jointly owned vehicle is created specifically for the purposes of acquiring an interest in the target company, the Commission will look at the individuals behind the company as the real players.

E. No Control

Not all transactions that involve several investors result in sole or joint control under EU law. In fact, it may happen that the company does not have a majority investor, and the required majority to adopt strategic business decisions can be reached by different combinations of minority investors ("shifting majorities"). The key difference between a no-control scenario and a joint-control situation is that the first will not give rise to a "concentration" and will not require an EU notification (although it may trigger other filing requirements, for instance in jurisdictions which review minority shareholdings regardless of control, such as Austria, Brazil, Germany, India, Japan, South Korea and Taiwan). In M.1366 *Paribas/CDC/Beaufour*, the Commission concluded that it had no jurisdiction over the transaction because none of the parties involved acquired control.

III. PROCEDURAL ISSUES

The majority of PE deals are financial investments in companies with growth potential and with no overlaps or relationships with the PE firm's portfolio. Such deals are often eligible for simplified or "fast-track" procedures in the EU and in other jurisdictions. Still, in many jurisdictions the procedural burden and the delay on the transaction remain hard to justify.

In 2016, out of the 362 cases notified to the Commission, approximately 35 percent involved at least one PE firm. Of the 245 cases approved under the simplified procedure, approximately 45 percent involved at least one PE firm. Conversely, none of the eight 2016 decisions raising "serious doubts" under Article 6(1)(c) of the EU Merger Regulation involved a PE buyer.

The 2013 Simplification Package adopted by the Commission has simplified and accelerated the review process, without any apparent impact on the effectiveness of EU merger control. Other antitrust authorities around the world have made similar attempts at simplifying the procedures for unproblematic transactions. In April 2014, China's MOFCOM released its Guiding Opinion on the Notification of Simple Cases of Concentrations of Business Operators (For Trial Use), setting out a provisional framework for reviewing "simple cases," i.e. transactions with minimal or no overlaps or vertical links. "Simple cases" are now authorized in around 30 days (counting from the "acceptance" of the notification, which can take an additional 4-8 weeks, where MOFCOM verifies the eligibility for the "simple case" procedure). Likewise, the "fast-track" applicable to uncomplicated cases in Brazil allows parties to have their transaction approved in a maximum of 30 days.

Despite these efforts, there is still room for further simplification without compromising the effective application of merger control rules. The Commission itself acknowledged this need in its 2014 White Paper where it proposed "[…] 3. Making procedures simpler for certain categories of mergers that normally do not raise competition concerns" and launched two public consultations polling the views of practitioners, businesses and any other interested stakeholders. The most recent consultation was launched in 2016 and a report is still to be published. One of the aspects the consultation seeks to evaluate is "the treatment of certain categories of cases that do not generally raise competitive concerns" inviting suggestions for simplification. Various categories of transactions which often involve PE firms could benefit from this revamping effort, in particular the so-called "zero-revenues joint ventures" and PE transactions in the real estate sector. An example of the unnecessary burden posed by the latter category of cases (which benefit from a blanket exemption from notification under the Hart-Scott-Rodino Act in the U.S.) is the Commission decision in M.8387 *AXA/Caisse des Depots et Consignations/Cible (II)* which involve the joint acquisition by two financial investors of "two real estate developments for commercial use in a shopping mall in the Région Provence-Alpes-Cote d'Azur" – hardly a matter of antitrust significance, let alone at EU level.

IV. SUBSTANTIVE ISSUES

While the substantive assessment of transactions involving PE firms is largely in line with the standard framework used by the Commission, as set out in the guidelines on horizontal and non-horizontal mergers, certain features of PE firms justify some adjustments at the margins. The deviations consist in a more pragmatic approach to market definition, vertical relationships and spill-over effects. The treatment of horizontal overlaps, on the other hand, sees no difference from any other concentration, and can of course result in lengthy and detailed reviews.

A. Identifying Relevant Overlaps and Vertical Relationships

The Commission will identify relevant overlaps and vertical relationships with the target within the entire portfolio of the PE firm. The approach tends to err on the cautious side and requires discussion in the notification form of companies that are only potentially vertically related or that are active in service lines which can hardly be seen as critical to any business (such as the outsourcing of non-core business processes) or for which supply is fragmented (such as corporate finance or certain IT applications).

An example of the wide net cast by the Commission is the decision M.8274 *Cinven/Permira/Allegro/Ceneo*, which concerns the joint acquisition by the PE firms Cinven and Permira of the online shopping marketplaces Ceneo and Allegro. In the decision, the Commission identified the possible vertical relationship between the target and certain portfolio companies of the PE firms that supply

IT services such as web hosting, EAS and CRM, none of which seems to be even remotely an "important input" (in terms of impact on total costs and differentiating value) for any business.

The Commission considers it irrelevant that a horizontal overlap or vertical relationship arises with a portfolio company owned by a different fund from the one that will carry out the acquisition. Equally irrelevant to the Commission is the fact that the PE firm is about to exit the investment in the overlapping portfolio company: until the exit transaction is completed, the Commission will review the overlap as an existing one (see the decision M.8274 *Cinven/Permira/Allegro/Ceneo*).

The lesson to draw for businesses is that they need to carry out a proper mapping of any potential horizontal and vertical relationships, even if in different geographic areas, and in parallel gather all the facts that could help quickly rule out any concern at the stage of the substantive assessment.

B. Horizontal Overlaps

The Commission will identify horizontal overlaps, as in any "industrial" concentration, by looking at the competitive relationships between the firms under "any plausible market definition." An example is M.7862 *TDR Capital/Euro Garages*, where the overlap arose only under a narrow market definition.

In the context of PE acquisitions, this approach can lead to the identification of multiple overlaps, often in fringe activities or in territories where only one of the parties operates and the other is only a potential entrant. However, the practice shows that the Commission is able to quickly dispose of overlaps that do not appear problematic on their face. One example is the case M.7537 *Ardian France/F2i SGR/F2i Aeroporti*, which concerns that acquisition of joint control by the PE firm Ardian over FA, a company under sole control of another PE firm, F2i. Two portfolio companies of Ardian, Altares and RGI, were active on a broad market for the provision of IT solutions, where Software Design, a subsidiary of the target, was also active. The Commission carried out a shorthand analysis of the possible overlap by noting that Software Design was active in a niche where Altares and RGI were not present and that in any case even if an overlap existed the combined share of the three entities would be below 20 percent.

PE firms often carry out so-called "bolt-on" acquisitions, i.e. acquire additional businesses in the same or a complementary product line, with a view to integrating the two, acquiring a critical mass or an attractive product range, and increasing their value at the moment of exiting the investment. Bolt-on acquisitions are treated by competition authorities in the same way as any other industrial consolidation.

The financial nature of the ultimate shareholder of the buyer does not affect at all the framework of analysis, which will include a review of the overlaps between the target and the portfolio company that carries out the acquisition as well as, if applicable, other companies in the PE firm's portfolio. One example of a bolt-on acquisition that required a detailed analysis of horizontal and vertical links between the portfolio company and the target company is the case M.6665 *Sun Capital/Rexam Personal and Home Care Packaging Business*. Another example is M.8287 *Nordic Capital/Intrum Justitia*, where Nordic Capital ultimately had to divest certain overlapping businesses in the Nordics to address concerns raised by the Commission.

The Commission will follow the standard horizontal analysis also in the different scenario where a fund of the PE firm acquires a target which is active in the same market as a portfolio company which is owned by a different fund of the same PE firm. The Commission has never endorsed the argument that since the two companies will be owned by, and their management would be accountable to, different individual investors, their respective shares should not be combined when assessing the impact of the acquisition. The Commission will instead consider all the portfolio companies of the same PE firm active in the same market as part of the same "undertaking" for the purposes of the competitive assessment. The fact that the PE firm has no plans for integrating the two companies, which will retain their independent management and brands, is also regarded as irrelevant. In short, the fact that the companies are part of the same "undertaking" under merger control rules prevents any further discussion of their relationship post-merger: the Commission will simply assume that the two will operate as a single entity on the market.

A corollary to this reasoning should be that any post-merger coordination between two portfolio companies owned and controlled by different funds of the same PE firm escapes the application of rules on unlawful agreements or concerted practices, having a pure intragroup nature. Lacking a specific precedent concerning portfolio companies of a PE group, the reasoning should nonetheless follow from the judgment of ECJ in Case C-73/95P *Viho Europe v. Commission.*

C. Vertical Relationships

The Commission will also closely review any actual or potential vertical relationship between the target of the PE acquisition and the PE buyer's portfolio companies. The Commission reviews not only actual but also potential vertical relationship between a portfolio company and the target (see point 6.3 Affected Markets of the Form CO, which includes in the definition of affected markets vertical relationships "regardless of whether there is or is not any existing supplier/customer relationship between the parties to the concentration").

Depending on the size and breadth of the PE firm, this expansive approach can potentially result in several relevant vertical relationships requiring disclosure in the Form CO and investigation by the Commission, something which can significantly increase the information burden on the notifying parties and the length of the approval process.

While the Commission expects to be informed of the full universe of potential/actual vertical relationships, it is typically willing to deal with them in a pragmatic way at the stage of the substantive assessment. Four "filters" seem particularly relevant in this task.

First, the Commission will take a closer look at actual (rather than merely potential), existing vertical relationships between the portfolio company and the target company. When the vertical relationship is merely potential, the risks of a foreclosure strategy may be remote. It is rather just as possible that after the merger the two companies will find in their best interest to continue trading with third parties as done up to that point.

There are several examples in the Commission practice of this nuanced approach to vertical relationships in the PE context. The potential rather than actual nature of a vertical relationship was used to rule out concerns in M.7015 *Bain Capital/Altor/EWOS* in relation to supplies of threonine from a portfolio company of the buyer to the target, as well as in the case of M.8274 *Cinven/Permira/Allegro/Ceneo.*

At the same time, the existence of an actual vertical relationship is not *per se* a reason for concern. The Commission will look at the relationship to assess whether the concentration will change the companies' incentives to allow third parties to access the "important input." An interesting case in this context is M.7671 *KKR/FIBA/WMF*, which concerns the acquisition by the PE firm KKR of joint control with FIBA over WMF, a manufacturer of automated coffee machines. The case raised vertical concerns due to KKR's control of Selecta, a vending machines operator, and FIBA's control of BWT, a supplier of filter cartridges used in coffee machines. Two competitors of BWT expressed concerns that post-transaction access to WMF vending machines and to vending machines operated by Selecta could be restricted. In regard to the first vertical relationship, the Commission's decision notes that BWT had been already an almost exclusive supplier to the target for many years and "as purchases from third parties have been immaterial in the last two years, the transaction is not likely to have any effect on WMF's purchasing policy." Regarding the second vertical link, the Commission's reasoning moved from opposite facts – Selecta had been buying stable volumes from another supplier for two years – to reach the same conclusion that the transaction would not alter the incentives of Selecta. This example shows that at least as far as customer foreclosure is concerned, a long-standing supplier relationship may soften the competitive impact of a full integration between portfolio company and target and can help rule out serious competitive issues. The same approach was applied in M.7614 *CVC Capital Partners/Royal DSM*, where a vertical relationship was seen as non-problematic also in view of the fact that the target company had bought a certain input exclusively from a portfolio company of the buyer.

Second, the Commission applies the requirement of the "important input" to rule out vertical concerns. The breadth of PE firms' portfolios is such that almost inevitably there is one or more companies that could supply an input to the target. However, an input can only be exploited for a foreclosure strategy when it is critical to the downstream company. As stated in the Commission Guidelines on the assessment of non-horizontal mergers:

> Input foreclosure may raise competition problems only if it concerns an important input for the downstream product. This is the case, for example, when the input concerned represents a significant cost factor relative to the price of the downstream product. Irrespective of its cost, an input may also be sufficiently important for other reasons. For instance, the input may be a critical component without which the downstream product could not be manufactured or effectively sold on the market, or it may represent a significant source of product differentiation for the downstream product. It may also be that the cost of switching to alternative inputs is relatively high. (point 34).

Three decisions exemplify the application of the test in the PE context. In M.6296 *Triton/COMPO*, the Commission ruled out a risk of foreclosure because the contract manufacturing services provided by the portfolio company Schirm were only a small share of the cost of the downstream product produced by the target. Another example is M.6738 *Goldman Sachs/KKR/QMH*, where, already at the stage of the market definition, the Commission identified as important inputs for a target active in hotel management, products like food and drinks wholesaling and linen rental and laundry services. Since none of the two PE firms acquiring control had activities in these segments, the transaction did not raise vertical issues. Finally, in M.7987 *Towebrook Capital Partners/Infopro Digital* the target was active in the supply of written press and in professional databases for the construction sector in France, while Towerbrook was active in real estate development through the portfolio company GSE. Despite the related nature of the segments, the Commission agreed with the parties that the target's products were not "important input" as they represented a small fraction of the total purchasing costs of GSE and were not necessary for GSE to carry out its activity.

Third, the Commission is willing to more leniently apply the requirement that the vertical relationship be examined across all plausible market definitions, including the narrowest ones, when the vertical relationship as a whole does not seem problematic.

An example is the case M.5243 *CVC/RAG/Evonik*, which concerns the acquisition of joint control by CVC, a PE firm, over Evonik. One of CVC's portfolio companies, Univar, was active as a distributor of a range of chemical products, while the target Evonik was a specialty chemicals producer, and there were potential and actual vertical links between the two. The parties argued that the definition of the relevant product markets for the numerous products manufactured by Evonik that were, or could be, distributed by Univar was unnecessary and disproportionate, given the lack of horizontal overlaps and the limited market share of Univar (below 25 percent). The Commission followed the approach and assessed the vertical links on the basis of an overall market for "chemical manufacture/distribution," which is a clear departure from the product-by-product approach adopted in other transactions in the chemical sector.

Fourth, the Commission disposes quickly of actual or potential vertical relationships that have a *de minimis* nature or that do not show any potential for further development. The elements relied upon by the Commission are the total value of sales in the EEA by the upstream company, the total value of purchases of the input by the downstream company, the ratio between the latter and total production costs of the downstream company.

The Commission analysis in the PE context is in line with the approach to industrial transactions and can be very detailed (see, among many, the cases M.6922 *Triton/Logstor*, or M.6778 *Advent International Corporation/Cytec Resin Business*, where the Commission reviewed links with upstream and downstream portfolio companies of the buyer).

The arguments successfully used for ruling out vertical concerns in PE cases tend to be fact-based and focus on the lack of ability/incentive to foreclose (due to a non-essential input or a low share in the upstream market) or the presence of strong alternatives.

Companies have often argued that PE funds lack, by definition, the ability and incentive to engage in a foreclosure strategy, because post-merger the portfolio companies will continue to be independently managed and/or owned by different funds and accountable to different investors. An example is the case M.7058 *EQT VI/Terveystalo Healthcare*, where the parties sought to rule out a vertical concern on the basis that the portfolio company and the target would be controlled by different funds, each with separate and independent business cases, different investors and exit horizon. While the Commission did not expressly dismiss the argument, it ruled out the concern exclusively on economic grounds at the end of a standard foreclosure analysis.

While the outcome of these cases is not disputed here, it is submitted that a theory of harm focused on a joint foreclosure strategy between portfolio companies belonging to different funds of the same PE firm makes no economic sense. By definition, a foreclosure strategy involves a trade-off between the revenues foregone in the upstream market and the extra profits that would be accrued in the downstream market following the foreclosure of the competitors. This strategy may have sense, depending on the circumstances, when implemented by two business units of the same corporate group, with consolidated P&L accounts. In the PE context, the same strategy would only benefit the investors in the downstream portfolio company while causing a straight loss to the different investors in the upstream company. This strategy would have no justification for the investors of the upstream company and potentially expose the management to liability.

At all events, while the Commission has reached the correct outcome in these cases – finding no vertical issues, this search comes at the cost of very burdensome notification processes. It is noteworthy that in the entire history of EU merger control, the Commission has rarely blocked or sought commitments on the basis of vertical issues, and has *never* done so in a PE transaction. Requiring extensive disclosure of potential vertical relationships within ever-broadening PE firm portfolios is a burden with no practical justification. For these reasons, at a minimum the Commission should sharply reduce its requirements for vertical information in the context of PE deals.

D. Spill-Over Effects

PE transactions are often carried out by consortia of PE firms. PE consortia allows different firms to pool resources and bid for assets, which they would be unable to acquire independently. Consortia also allows a target company to benefit from different and complementary expertise or the geographic footprint of the PE funds involved.

Cooperation between PE firms at the bidding stage could raise several distinct antitrust issues, some of which were considered in the 2007 litigation regarding PE consortium bidding practices, which ultimately recognized the legitimacy of PE consortium bidding. From a merger control perspective, the analysis is instead similar to any acquisition of joint control, and will require an assessment of any spill-over effects of the concentration in addition to any horizontal overlap and vertical link. Given the breadth of activities of PE firms, spill-over effects can be considerable as it is more likely than not that the two or more PE buyers will have overlapping activities. However, these overlaps are only going to raise concerns if they occur in markets related to where the target is active.

An example of the Commission's methodology in the field can be found in M.6738 *Goldman Sachs/KKR/QMH*, involving the acquisition by two PE firms of joint control over QMH. The Commission excluded out any competition concerns on the basis that the two PE buyers were not present at the same time in a market upstream, downstream or closely related to that where the target operated. The Commission also found it relevant that the joint venture only represented a small part of the parent portfolios so that coordination through the joint venture would be highly unlikely. A further example of the same approach is M.5968 *Advent/Bain Capital/RBS Worldpay*, where the two PE buyers overlapped in a market that was completely unrelated to the target company. Interestingly, in M.6819 *Ratos/Ferd/Aibel Group*, the Commission dismissed spill-over concerns on the basis that the joint PE acquisition had "purely financial character" and that the PE firms' overlapping portfolios were "separate and independent entities, whose stake in [target company] Aibel will be managed as a portfolio company stake, separately from other Ferd or Ratos holdings." This suggests that the reasoning based on the separate ownership and management of portfolio companies, thus far rejected in the assessment of horizontal overlaps and vertical links, can find a limited application in the analysis of possible spill-over effects.

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