

29 November 2017

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE****Cancels & replaces the same document of 30 October 2017****Common Ownership by Institutional Investors and its Impact on Competition****Background Note by the Secretariat****5-6 December 2017**

This document was prepared by the OECD Secretariat to serve as a background note for Item 6 at the 128th Meeting of the Competition Committee on 5-6 December 2017.

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More documentation related to this discussion can be found at

www.oecd.org/daf/competition/common-ownership-and-its-impact-on-competition.htm

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JT03423814

*Common Ownership and its Impact on Competition**

Abstract

The simultaneous ownership of shares in competing firms by institutional investors, a phenomenon referred to as “common ownership”, is becoming increasingly common in some markets. This is in part due to the increasing popularity of passively managed investment funds, which allow investors to diversify their holdings and therefore reduce their exposure to individual firm risks.

Recent studies have linked common ownership with competition concerns. In particular, it has been theorized that institutional investors with holdings in multiple competing firms may have the incentive to dampen competition, either by facilitating collusion or by encouraging unilateral business decisions that may benefit some portfolio firms at the expense of others. There are a range of mechanisms that provide institutional investors with the ability to influence firm management in accordance with these incentives.

Since it involves the acquisition of minority shares, however, common ownership may in many cases not be captured by merger control legislation. Several proposals have been made to bring common ownership under merger review, which are the subject of substantial debate.

This paper will describe the theoretical and empirical foundations for the competition concerns associated with common ownership, the proposed policy responses, and associated critiques. Given the developing nature of the debate on common ownership, this paper identifies several tools available to competition authorities to analyse the phenomenon in their jurisdiction, as well as some alternative policy perspectives to bear in mind when doing so.

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1. Introduction

1. The way individuals, businesses and pension funds invest has changed dramatically. Fewer and fewer hold corporate stocks directly. Instead, investors are increasingly purchasing units of funds that pool assets together, reducing exposure to the risk of an individual stock by “diversifying” holdings. In particular, index funds have exhibited substantial growth in recent years. These funds are a highly diversified type of fund and seek to passively track the performance of an index (such as the S&P 500) rather than earn excess returns by actively choosing investments. Their low cost approach has taken on a particular appeal since the financial crisis, when some investors began to question the value of passive investment management.

2. However, recent theoretical and empirical studies have found that diversified investment funds may be having a detrimental effect on market competition in certain concentrated sectors, particularly in airlines and retail banking. They find that in oligopolistic markets where competitors have shareholders in common—which occurs naturally when funds have diversified holdings across an industry—prices may be higher, collusion may be more likely, and management incentives may be oriented toward industry, rather than firm, performance.

3. Since investment funds own only minority shares of firms, the acquisition of these shares usually falls outside the traditional scope of merger control rules. However, numerous channels, both direct and indirect, exist for these funds to exert influence on their portfolio firms. The influence of institutional investors can, for example, be particularly pronounced when the ownership structure of a firm is highly dispersed. Some studies also posit that the management of a firm may be incentivised to pursue investment fund interests, to the detriment of market competition. For example, a firm could take into account the impact of its strategic decisions on the profitability of its rivals, potentially trading off its profit for that of its rivals, to the benefit of investors who hold shares of both firms.

4. These concerns have led to far-reaching proposals about using either current or new antitrust laws to control, and potentially limit, common ownership. At the same time, numerous critiques of these proposals, and their theoretical as well as empirical foundations, have been voiced.

5. In sum, more research is needed to identify the likely effects of common ownership on competition, and to determine measures needed in response, if any. Given the extent of common ownership in at least some markets, the continuing trend towards diversified investment products and the concentration of investment funds, this research could have substantial value: value that would extend beyond the competition domain, to a range of alternative policy perspectives, including corporate governance and financial stability.

6. This background note is structured as follows:

- **Section 2** reviews the reasons why non-controlling minority shareholdings fall outside the scope of most current legal frameworks and defines the key terms and concepts behind certain forms of minority shareholdings
- **Section 3** provides an overview of the evolution of institutional investors and the extent of common ownership
- **Section 4** describes possible theories of harm for common ownership, empirical findings related to this potential harm and associated criticisms.

- **Section 5** introduces some proposed policy responses to address concerns related to common ownership.
- **Section 6** sets out the tools that competition authorities have available to analyse common ownership in their jurisdiction.
- **Section 7** concludes and suggests avenues for further research and consideration.

2. Background on minority shareholdings in merger control

7. Most jurisdictions do not apply merger control rules to the acquisition of purely financial investments in a target company when these acquisitions do not confer the ability to exercise material influence over the target company (i.e. non-controlling minority shareholding). If an investor buys minority shares in multiple companies in the same industry without being able to exercise control over the companies, this may not constitute a notifiable transaction in most jurisdictions.

8. Before discussing the potential antitrust concerns arising from the presence of institutional investors as minority shareholders in competing firms, this chapter reviews briefly the current approach towards minority shareholdings in merger control, and particularly the reasons why non-controlling minority shareholdings fall outside the scope of the legal framework.

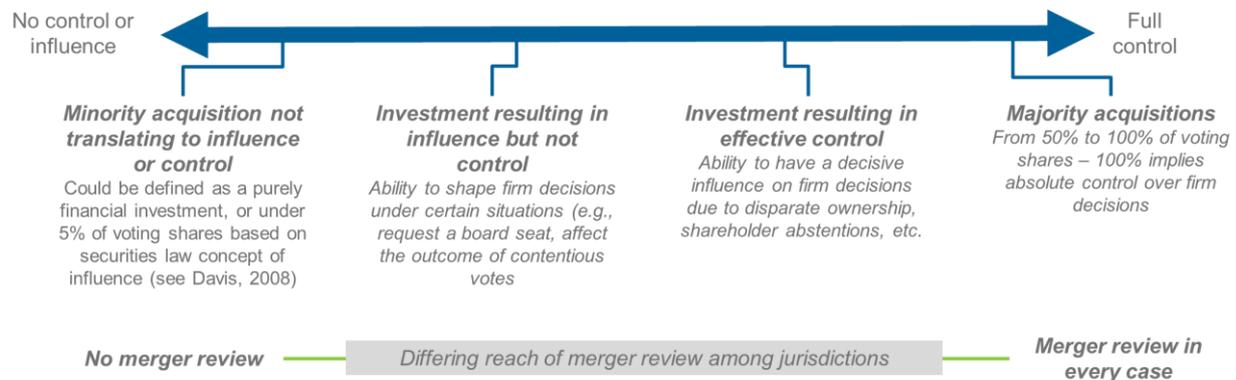
9. Minority shareholdings, i.e. when a shareholder holds less than 50% of the voting rights attached to the equity of the target firm (EC, 2013), are a widespread phenomenon in the economy. Companies invest in minority equity shares of other firms for the same reasons as expanding their operations inland or overseas. Equity investments may be a means to diversify and spread costs and risks, to access new technologies or innovative managerial practices, to establish and strengthen business relationships, to access new markets, and to fund and exploit joint activities, such as R&D (see OECD, 2008).

10. At the same time, the establishment of an “ownership link” between actual or potential competitors might affect a firm’s incentives to compete vigorously¹; therefore the benefits of the partial integration must be balanced with the possible negative effects on competition. In most jurisdictions, these concerns are addressed under merger control rules. The framework for the analysis of these transactions is based on the assumption that the acquisition of control gives the acquirer the ability to raise prices unless constrained by competition from other rivals (OECD, 2008, p.21).

11. Since the ownership of minority shares in itself doesn’t indicate whether the owner is entitled to exercise control or influence over the target, the antitrust literature distinguishes between *controlling* and *non-controlling* minority shareholdings. In the former case, the minority shareholder can exercise control over the target company, either solely or jointly with other shareholders, while in the latter, minority shareholdings represent a form of purely financial investment, and thus do not confer control in the legal sense.

12. Most merger review regimes accordingly focus on the question of control when determining which transactions are captured. The diagram below illustrates the range of influence that can be associated with a transaction.

Figure 1. The spectrum of control and influence as captured by merger review



13. Different jurisdictions have differing approaches to the concept of control, which serves as a basis to define the scope of the reviewable transactions. Many jurisdictions will only review mergers when an acquisition leads to a controlling influence in another firm, whereas others will also include influence that is not equivalent to control:

- **Acquisition of “decisive influence”.** The EU merger review regime and regimes modelled after it, define control as the possibility of exercising “*decisive influence*” on an undertaking. Decisive influence can be exercised on the basis of rights, contracts or any other means, either separately or in combination, and taking into account all factual and legal circumstances. Only transactions which lead to the acquisition of control, or to a meaningful change in the nature of control, are subject to review (OECD, 2008, p.10).
- **Acquisition of “material influence”.** Other jurisdictions apply merger review rules to a wider range of transactions, including those which do not confer “decisive influence”. In the UK, the CMA may review a non-controlling minority shareholding where it confers on the acquirer the ability to exercise material influence over the target company. The ability to exercise material influence will be presumed if 25% or more of the shares of the target company are acquired. However, this presumption is rebuttable depending on the case² (EC, 2016, p.15).³

In Germany and in Austria, a 25% shareholding constitutes an unambiguous legal threshold and will trigger a merger control filing. In addition, in Austria, acquisitions of less than 25% of capital shares or voting rights will also be captured by the Austrian merger regime if the acquired shares confer on the acquirer rights which a holder of more than 25% of shares would normally be able to exercise (EC, 2016, p.25). Under German law, acquisitions of shareholdings of less than 25% can also constitute a notifiable event, if they “*enable one or several undertakings to exercise directly or indirectly a material competitive influence on another undertaking.*” (German Act against Restraints of Competition, Gesetz gegen Wettbewerbsbeschränkungen, “GWB” No. 4 of § 37(1)) While the term “material competitive influence” is not defined in the German merger provisions, it has gained considerable clarity through case law (EC, 2016, p.21). It can apply to any kind of influence and shareholding, as long as it confers a de-facto influence similar to the one of the holder of a 25% shareholding (see Zigeliski,

2009). In both jurisdictions, the thresholds only establish jurisdiction, not competitive harm. The competition assessment takes place at the second stage.

- **No control concept, but exemption for transactions solely for investment purposes.** The US merger control system has a very extensive reach. In principle, the agencies are able to focus more directly on the question of whether an acquisition might substantially lessen competition. The jurisdiction on mergers is not premised on the concept of change in the control of a company, but covers any acquisition of 10% or more voting securities (or assets) of another firm and prohibits them, where “the effect of such acquisition may be substantially to lessen competition”.⁴ This broad jurisdictional criterion is mitigated by the “solely for the purpose of investment” criteria, which holds that “[t]his section shall 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 substantive lessening of competition”.^{5,6} Accordingly, acquisitions above 10% need to be notified unless the acquisitions are solely for investment purposes.

14. In view of the above, in merger regimes that use the *notion of control* to define the scope of the reviewable transactions such as the EU, acquisitions of non-controlling minority shareholdings fall outside the scope of the application of the merger rules. Other jurisdictions that do not rely solely on the legal concept of control, but instead include the acquiring firm’s “ability” to influence the acquired firm’s decision making process, can review acquisitions of non-controlling minority shareholdings.

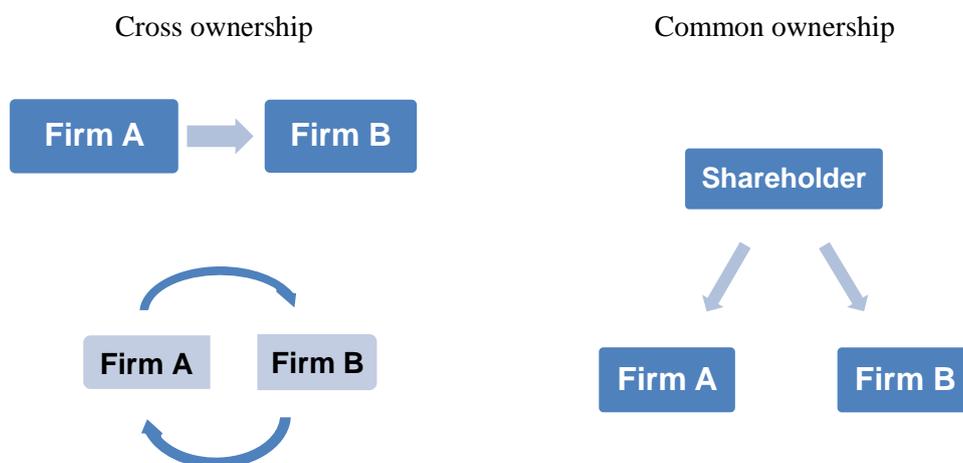
15. Thus, due to the different approaches related to the legal notions of control, acquisitions of non-controlling minority shareholdings are subject to review only by certain jurisdictions. In other jurisdictions, these transactions fall outside the scope of the merger review, since shareholders are not entitled to exercise control over the target under the respective merger rules; therefore these transactions are not notifiable.⁷ As a result, there are relatively few examples of competition agencies challenging transactions of non-controlling shareholdings. Moreover, there were even fewer cases involving acquisitions of non-controlling minority shareholdings that actually raised competition concerns (EC, 2016, p.4).⁸

16. However, merger control rules are not necessarily the only legal basis for challenging concerns raised by minority shareholdings. There are a few examples in which the acquisition of a minority stake in a company could amount to an infringement in the form of an anticompetitive agreement or abuse of dominance.⁹

- **Application of rules on anti-competitive agreements.** Although the mere acquisition of a minority stake does not constitute conduct that restricts competition, it could nevertheless serve as an instrument for influencing the commercial conduct of a competitor, thereby restricting or distorting competition, in particular where the agreement provided for a commercial cooperation between the companies, or creates a structure likely to be used for such cooperation, or where it gave the acquiring shareholder the possibility of taking legal or de facto control of the target.¹⁰
- **Application of rules on abuse of dominance.** The European Court ruled (in a case decided before the adoption of the European Commission Merger Regulation) that the acquisition of a minority shareholding in a competitor could only be considered in an abuse of dominance context if it resulted in effective control, or at least some influence over the target’s commercial policy.¹¹

17. Minority shareholdings can include one-sided ownership by one firm of another, reciprocal minority shareholdings between rivals and minority shareholding by third parties, such as investors.¹² For the purpose of this note, it is worth underlining the difference between cases in which rival firms have direct ownership interests in each other, often referred to as “cross ownership”, “cross-holdings”, “partial ownership” or “structural links”, and when competing firms have shareholders in common, such as investors that own shares in competing companies in the same industry. Although some studies refer to this phenomenon as “institutional cross-holdings”, “institutional ownership”, or “overlapping ownership/owners”, in this note we use “common ownership” in line with the mainstream of the literature¹³ (Figure 2).

Figure 2. Certain forms of minority shareholdings



18. As seen above, common ownership refers to situations in which a third party, generally an investor holds minority equity shares in several competing companies at the same time. However, transactions conducted purely for investment purposes and which do not allow the investor to exercise control over the target companies may not constitute notifiable transactions in most jurisdictions.

Box 1. Key points in Section 2: Background on minority shareholdings in merger control

- Minority shareholdings can be defined as shareholdings of less than 50% of the voting rights attached to the equity of the target firm. Since the ownership of shares in a company does not indicate whether the owner of the minority stake is entitled to exercise control over the target company, the antitrust literature distinguishes between controlling and non-controlling minority shareholdings.
- There are differences in the scope of merger review regimes among jurisdictions with regard to transactions that may confer influence, but not control. However, in certain jurisdictions, transactions representing only a financial investment in a firm, and do not empower the owner with influence over the target, are explicitly exempted from the scope of the merger control rules, therefore these transactions are not notifiable.
- Cross- and common ownership are probably the most common forms of minority shareholdings. Cross ownership refers to situations, in which rival firms have direct ownership interests in each other; while common ownership covers situations when a third party, such as an investor owns shares in competing companies in the same industry.

3. Institutional investors and the level of common ownership

19. In order to provide context to the potential antitrust concerns raised by common ownership, this chapter gives an overview of the investors' landscape and the extent of this phenomenon.

20. The umbrella term of "institutional investor" covers a variety of different institutions which collect money for investment purposes, ranging from banks to mutual funds. Irrespective of their exact form, in the past decades there has been a rapid growth in the amount of capital that these firms invest on behalf of their clients. Several studies show that in some concentrated industries, there has been a corresponding increase in the extent of common ownership.

3.1. Institutional investors

21. Institutional investors pool money for investment purposes and are major collectors of savings and suppliers of funds to financial markets. They include banks, insurance companies, pension funds, hedge funds, real estate investment trust (REITs), investment advisors, endowments, and mutual funds. These institutions can assume the legal form of joint stock companies (such as investment companies), limited liability partnerships (like private equity firms) or incorporation by special statute, for instance in the case of some sovereign wealth funds (see OECD, 2014, p.7). Institutional investors can be free-standing institutions or be a part of a larger financial institution, group or conglomerate. Mutual funds, for example, are often subsidiaries of banks and insurance companies. Some studies refer to institutional investors as "blockholders", which was

partly related to the compulsory reporting system for the financial supervisors, since certain categories of owners must report the size of their ownership positions and in some cases their control intentions (Davis, 2008).¹⁴

22. The number and the diversity of investors increased dramatically as new types of institutions emerged (see OECD, 2014, p.8). In addition to “traditional” institutional investors, such as investment funds, pension funds or insurance companies, “alternative” investors, such as hedge funds, private equity funds, exchange-traded funds (ETFs) and sovereign wealth funds have appeared. Moreover, asset or investment management companies that offer investment services along with other financial product offerings can also be considered alternative institutional investors. OECD notes that “while a few large institutional investors manage their assets internally, the last couple of decades have seen an increase in outsourcing of asset management to external asset managers” (2014, p. 102).

23. Despite some regional variation, the evolution of the investment market has followed some broadly similar trends. Among these are the following:

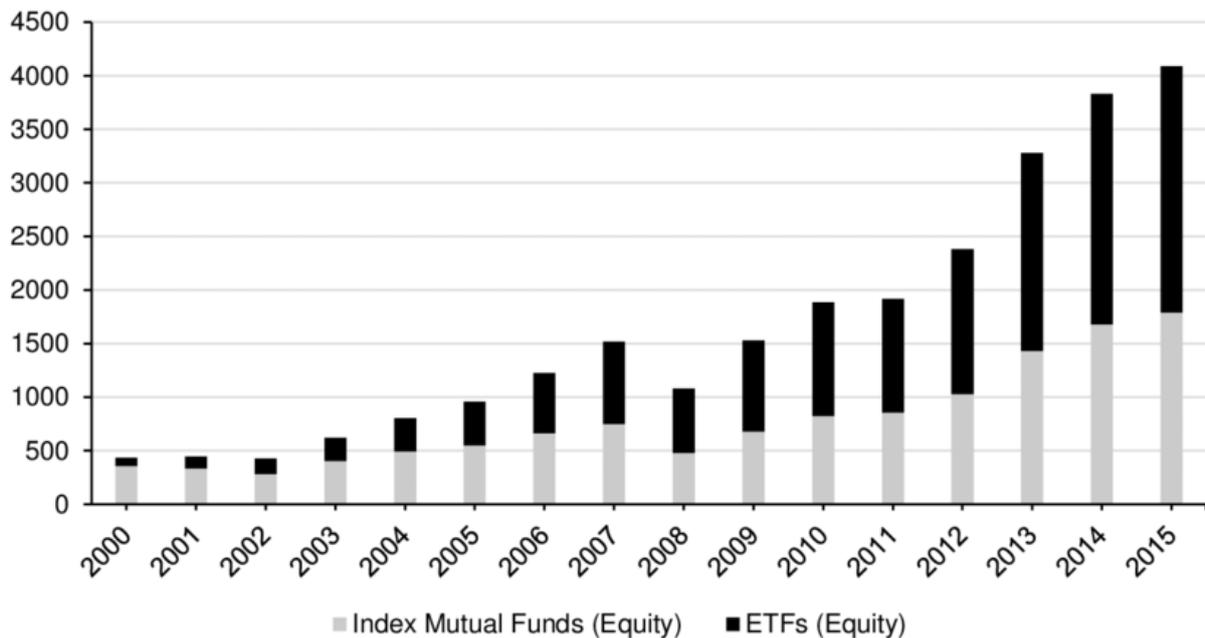
- ***Shift from direct ownership of stocks to investment in funds.*** By transitioning from the direct ownership of a small number of stocks to the ownership of units of funds, investors are able to diversify their risks and benefit from the services of professional portfolio managers. For instance: direct ownership of stocks in the US declined from 84% in the mid-1960s to 40% in 2011; direct ownership in the UK declined from 54% to 11% during the same period (OECD, 2014, p.96). Due to this, corporate ownership had become overwhelmingly intermediated by institutions rather than held directly by individuals. The primary beneficiaries of this change are mutual funds, known in the UK as “unit trusts” (Davis, 2008).
- ***Spread of passive investment strategy and index funds.*** Alongside actively-managed funds, which generally seek to exceed market performance, passively-managed funds have been introduced and grown significantly. These funds seek to replicate the performance of a pre-defined index while minimising expenses (further described in Box 2 below).

The movement by investors toward passively-managed funds was particularly marked after the financial crisis (Fichtner et al, 2017). Figure 3 shows the rapid growth of passive index funds that invest in equities worldwide. Since 2008, index mutual funds and exchange-traded funds (two types of passive investment funds) have grown at a roughly similar pace, doubling their assets under management between 2011 to 2014. In total, these funds had at least USD 4 trillion in assets under management at the end of 2015, thus surpassing the assets under management of the entire hedge fund industry (Fichtner et al. 2017, p.6).

- ***Increasing concentration in passive funds and in the asset management market.*** A large share of passive index funds are managed by the “Big Three”: BlackRock, Vanguard and State Street, who acquired significant shareholdings in thousands of publicly listed corporations both in the US and internationally (Fichtner et al. 2017, p.2). For example, in 2015, the mean ownership of 1,662 listed U.S. corporations by the Big Three was over 17.6 percent.

- **Dispersed ownership of listed companies.** The growth in the depth and sophistication of capital markets has permitted the participation of an increasing variety of investors. As a result, the ownership of publicly-listed companies has become dispersed, particularly in the US, where the largest ownership share of any investor in a firm often does not surpass 5%. The largest such shareholders are often investment funds who invest shares on behalf of clients (Davis, 2008, p.14.).

Figure 3. Assets under management by passive equity index funds 2000-2015, bn USD.



Source: Investment Company Institute Fact Book; BlackRock Global ETP Landscape Report Dec. 2015. Extracted from Fichtner et al. (2017)

Box 2. Active vs passive investment strategy

Actively-managed investment funds generally seek to outperform average market performance, whereas passively-managed funds simply attempt to match the performance of a benchmark index, such as the Standard and Poor's 500. In so doing, passive investment fund managers avoid the research and analysis costs of active fund managers, and therefore often feature lower management fees. Some key distinctions between active and passive management are summarised in the table below.

Active vs passive portfolio management

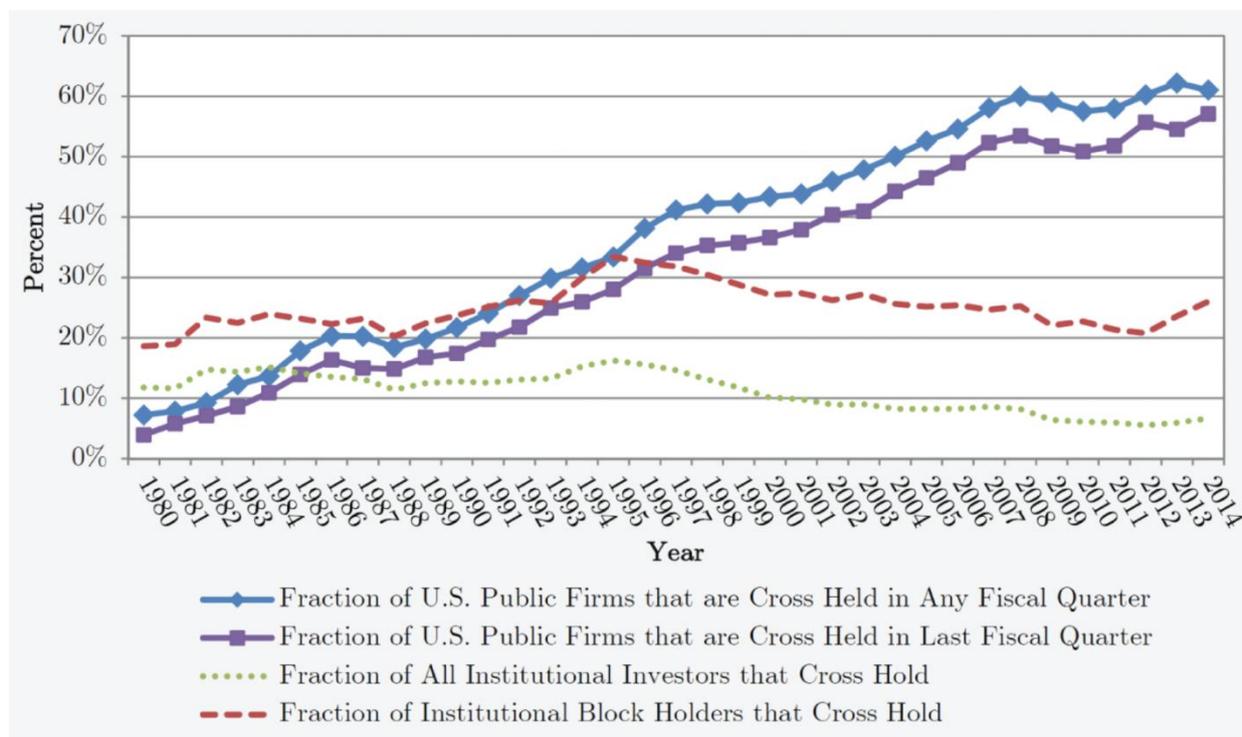
Active Management	Passive Management
Attempts to beat benchmark performance	Attempts to match benchmark performance
Contends pricing inefficiencies in the market create investing opportunities	Contends that it is difficult or impossible to "beat the market"
Securities selected by portfolio manager	Securities selected based on an index
Focuses on choice of specific securities and timing of trades	Focuses on overall sector or asset class
Trading and the degree of liquidity for individual securities may increase portfolio cost	Infrequent trading tends to minimize portfolio expenses

Table excerpted from Williams and Ortega (2012, p.85)

3.2. The extent of common ownership by institutional investors

24. Several recent studies attempt to quantify the magnitude of common ownership in selected US industries. While using somewhat different methodologies, they generally find that the level of the common ownership in US public-listed companies has increased significantly, and especially in certain sectors of the economy, such as airlines, pharmacies, banks, breakfast cereals and soft drinks (Posner et al, 2017). As Figure 4 shows, the fraction of U.S. public firms held by institutional investors that simultaneously hold at least 5% of the common equity of other same-industry firms has increased from below 10% in 1980 to about 60% in 2014 (He and Huang, 2017). The phenomenon is not limited to the US; there is a high level of common ownership in the European banking sector and the German chemical market as well (Posner et al, 2017).

Figure 4. The evolution of common ownership in US public firms



Note: The authors refer to common ownership as cross-holding.

Source: He and Huang (2017)¹⁵

25. Additional estimates of common ownership are listed below:

- The density of the network of the US companies with owners in common more than tripled between 2000 and 2010, going from 4% to 14%. During the same period, the percentage of companies having a top 5 fund as an investor increased from approximately 30% to almost 50% (Azar, 2011).
- In order to illustrate the extent of common ownership, Azar et al. (2017) noted that the probability that two randomly selected firms in the same industry from the S&P 1,500 have a common shareholder with at least 5% stakes in both firms increased from less than 20% in 1999Q4 to around 90% in 2014Q4. (Azar et al., 2017, p. 2).
- The overlap of owners of competing firms is not limited to the US. Among European banks, as of 2016, BlackRock was the largest shareholder of HSBC, Deutsche Bank, Banco Popolare and Banco Bilbao.

Table 1. Largest shareholders in the US airline industry (2016Q4)

Delta Airlines		Southwest Airlines Co.		American Airlines	
	%		%		%
Berkshire Hathaway	8.6	PRIMECAP	11.8	T. Rowe Price	14.0
BlackRock	6.8	Berkshire Hathaway	7.0	PRIMECAP	9.0
Vanguard	6.3	Vanguard	6.2	Berkshire Hathaway	7.8
State Street	4.3	BlackRock	6.0	Vanguard	6.0
J.P. Morgan	3.8	Fidelity	5.5	BlackRock	5.8
United Continental Holdings		Alaska Air		JetBlue Airways	
	%		%		%
Berkshire Hathaway	9.2	T. Rowe Price	10.14	Vanguard	8.0
BlackRock	7.1	Vanguard	9.73	Fidelity	7.6
Vanguard	6.9	BlackRock	5.6	BlackRock	7.3
PRIMECAP	6.3	PRIMECAP	5.0	PRIMECAP	5.9
PAR Capital Mgt.	5.2	PAR Capital Mgt.	3.7	Goldman Sachs	3.0

Source: Azar et al. (2017)

Table 2. Largest shareholders of European Banks (2016Q4)

HSBC		Deutsche Bank		Banco Popolare	
	%		%		%
BlackRock	5.9	BlackRock	6.2	BlackRock	5.1
Legal & General	3.0	Paramount	3.1	Norges Bank	3.7
Vanguard	2.3	Supreme Universal	3.1	Fond CdRdL	2.9
State Street	2.2	DB, PB&IBI	2.6	Dimensional Fund	2.5
Norges Bank	2.0	Merrill Lynch	2.5	Vanguard	2.0
BPM		Banco Bilbao		Banco Santander	
	%		%		%
BlackRock	5.2	BlackRock	4.9	State Street	12.7
Time & Life	4.0	JP Morgan	3.6	Vanguard	9.9
Dimensional Fund	3.4	Lyxor	2.9	BNY Mellon	6.1
Norges Bank	3.0	Vanguard	2.0	BlackRock	5.2
Standard Life	2.0	Amundi	1.9	Societe General	4.0

Source: Schmalz (2016)

- In Germany, institutional investment seems to be an industry-specific phenomenon. In 2015, institutional investors dominated the chemical industry, holding more than 60% of its total value, while in the construction and food sectors, they hold less than 10% of the total equity in German companies. (Seldeslachts et al., 2017, p.307).
- In Iceland, common ownership exhibited a substantial increase following the financial crisis. By 2016, the pension funds had acquired shareholdings in the majority of Icelandic companies, including 45% of real estate firm shares, 35% of insurance firm shares and 50% of telecommunications firm shares (Óladóttir et al., 2017).

Box 3. Key points in Section 3: Institutional investors and the level of common ownership

- The term “institutional investor” covers different institutions which collect money for investment purposes, including banks and mutual funds.
- In the past two decades, there has been a rapid growth in the amount of capital invested by funds on behalf of their clients. Simultaneously, there was a significant increase in common ownership.
- In the US, the growth in common ownership was particularly pronounced in certain concentrated sectors, such as airlines and banks. This phenomenon is not limited to the US; there is, for example, a high level of common ownership in the European banking market.

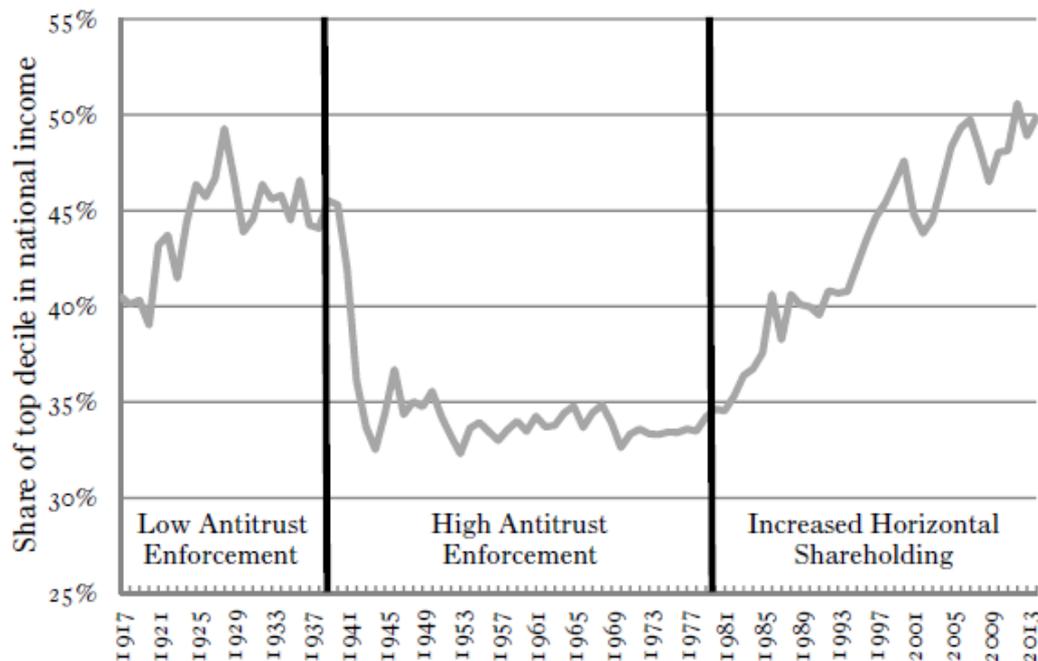
4. Competition effects stemming from common ownership

26. Several recent studies have found that common ownership by institutional investors may result in competition problems, namely higher prices. Specifically, Azar et al (2016) conducted an econometric analysis of fees for banking deposit services and found that common ownership was associated with higher fees. A subsequent study examined the US airline industry and found that, depending on the methodology used, common ownership was associated with higher ticket prices in the magnitude of between 3% and 12%. Details of the methodologies employed in these studies, and some associated critiques, are provided in Box 3 and Annex A.

27. The broad theory underlying these studies is that firms with shareholders in common may compete with each other less aggressively than they would if they had completely different shareholders. This weakened competition may manifest itself in unilateral effects¹⁶ on the part of at least one of the commonly held firms, or through coordination. Active influence by shareholders with diversified holdings across an industry may not even be required for these effects to occur, as firm managers may be incentivised to independently take into account the financial interests of common owners.

28. Proponents of theories regarding competitive harm stemming from common ownership emphasise the broader economic impact that it may be having. Elhauge (2016) ties common ownership to the concentration of wealth in the US economy, comparing its effect to the period before the passage of US antitrust laws (see Figure 5 below).¹⁷

Figure 5. Income Inequality in the United States, 1917-2014



Source: Excerpt from Elhauge (2016, p. 1292)

29. Much of the debate regarding the likelihood of competitive harm from common ownership centres around (1) whether institutional investors with shareholdings across an industry have an *incentive* to dampen competition, and (2) the *ability* of these institutional investors to influence the decisions of a firm's board and management, whether directly or through underlying incentives. This section reviews the main arguments of recent studies of common ownership focusing on these themes.

4.1. Theories of harm regarding common ownership and institutional investor incentives

30. This sub-section summarises the theories of harm that have been advanced with respect to potential unilateral effects or coordination as a result of common ownership. These theories explore how institutional investors have an incentive to dampen competition.

4.1.1. Competition issues stemming from unilateral effects

31. Unilateral effects generally refers to price increases, or declines in quality, variety or innovation, that firms can profitably implement following a merger, without needing to coordinate with competitors (see for instance ICN, 2004). In a perfectly competitive market, a firm would be unable to profitably deviate from the market equilibrium, since enough consumers would switch to the firm's competitors to make the deviation unprofitable.

32. Transactions that link firms through common shareholders may result in a type of unilateral effect. In particular, they may render unilateral price increases profitable, at least from the perspective of shareholders with holdings in multiple competitors, even if

the transaction does not increase the market power of the individual firms involved. This mechanism, further explained in Box 4 below, is the focus of much of the recent literature on minority shareholdings.

Box 4. Competition effects from cross ownership

Salop and O'Brien (2000) examine the case of cross ownership in an imperfectly competitive market (under both Bertrand and Cournot models of competition); specifically, the acquisition by a firm of a minority share in its competitor. This analysis built on papers by Reynolds and Snapp (1986) and by Bresnahan and Salop (1986), which found that financial interests among competing firms –even without any control rights– may lead to less vigorous competition.

Consider a hypothetical example involving two firms referred to as Firm A and Firm B, respectively, below for simplicity. Prior to the acquisition, if Firm A were contemplating a unilateral increase in price, it may have been constrained by the fact that higher margins from a price increase would not compensate for the resulting loss of customers (quantified via a diversion ratio). However, with a minority share of Firm B, Firm A's calculus would change. Some of the customers who leave Firm A could begin purchasing from Firm B, and a portion of the profits from those sales would flow to Firm A. Thus, the lost profits from the loss of customers following the price increase could be partially mitigated by minority ownership of Firm B contributing to upward pricing pressure.

A range of factors (the size of Firm A's interest in Firm B, the price increase, the profitability of A and B, the concentration of the industry, etc.), will determine whether the price increase would in fact be profitable as a result of minority shareholdings. Importantly, no communication or agreement between Firm A and Firm B is required for this outcome.

33. Although the example described above relates to cross ownership, the underlying theoretical incentives could apply to common ownership by institutional investors. In the example of an oligopolistic market in which an institutional investor holds a minority of all (or most) firms, it is certainly theoretically possible that a unilateral price increase by one of the firms would be profitable from the investor's perspective. Losses from diversion of customers to competitors could be recouped because of the gains these competitors realise.

34. Several theoretical models have considered the effects of common ownership in the event that firm managers take into account the interests of horizontally-invested shareholders¹⁸. These effects include a tendency toward joint profit maximisation (Azar, 2017) and internalising the impact on competitor value of key decisions, such as R&D, litigation, takeover strategy, capital budgeting, executive compensation, or behaviour during auctions (see Hansen and Lott, 1996, and Rubin, 2006). The recent studies developed models to analyse the effect of common ownership on management decisions is described in Box 5 below.

Box 5. Modelling how firm management takes into account common ownership

Models of common ownership and its impact on firm decisions (see Azar et al, 2016; Azar et al, 2017) employ a proportionate control assumption. This assumption implies that a firm’s management will seek to maximise the total portfolio value of its investors, weighted by the proportion of shares they hold. So the firm’s objective function becomes:

$$\max \Pi_j = \sum_{i=1}^M \gamma_{i,j} \sum_{k=1}^N \beta_{ik} \pi_k$$

Where firm j seeks to maximise the weighted portfolio values of its investors (Π_j), with $\gamma_{i,j}$ denoting the weight of investor i ’s interests in the decisions of firm j (in other words, the “degree of control” the investor has over the firm¹⁹ (see O’Brien and Salop, 2000, p. 597), $\beta_{i,k}$ denoting investor i ’s share of the profits of firm k , and π_k denoting firm k ’s profits.

Based on this objective function, O’Brien and Salop (2000) derived a modified Herfindahl Hirschmann index (“MHHI”), which adapts the typical measure of firm concentration to take into account ownership interests that link competing firms (further details on the development of the index are contained in Annex A). The basic insight is that concentration could be underestimated if firms are assumed to behave fully independently, despite their underlying ownership.

The MHHI can be broken into two components – the standard HHI and a “MHHI delta”:

$$MHHI = HHI + \sum_j \sum_{k \neq j} s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}}$$

Where s_j and s_k are firm j and k ’s market shares, respectively. The MHHI delta therefore depends on the amount of control or influence that an investor has in a firm and its competitors, as well as its corresponding financial interests. All else equal, a higher degree of control or influence by common investors would translate to a stronger link between firms and therefore a higher MHHI, implying higher concentration in an industry.

In situations with no common or cross ownership ties, the MHHI delta would be zero, and the MHHI would be equivalent to the standard HHI (put differently, the standard HHI is a generalised version of the MHHI assuming no ownership links between firms).

35. However, the unilateral effects theories described above may oversimplify institutional investor incentives. An assessment of the profitability of unilateral effects from the perspective of a diversified investor would need to take into account that investor’s entire portfolio, rather than focusing solely on the investor holdings within a given market. When an investor has diversified holdings across many sectors of the economy, the firms in its portfolio may interact with each other as customers or suppliers. Thus, while diversified holdings across an industry may create incentives for anticompetitive outcomes, diversified holdings across many industries may counteract those incentives (see, for instance, Rock and Rubinfeld 2017).

36. The degree to which common ownership creates incentives for institutional investors to encourage unilateral effects therefore depends on the other holdings in their

portfolio. Investors in retail financial services markets may, for instance, have fewer direct interests in downstream affected firms than would be the case in industrial input industries.

37. In cases where a diversified institutional investor does in fact have an incentive to promote unilateral price increases, the degree to which these price increases manifest themselves will depend on the ability of the investor ensure that its interests are pursued by firm management. In other words, a diversified investor with a minority share would need to ensure that the firms it owns internalise the impact of substitution amongst themselves.

38. Section 4.2 will seek to describe the mechanisms of influence available to institutional investors: in other words, the *ability* of institutional investors to encourage the effects described above. It will also set out some of the critiques of the theories regarding these mechanisms.

4.1.2. Theories of harm involving coordinated effects

39. An alternative way in which common ownership could affect competition is if it incentivises institutional investors to facilitate coordination among their portfolio firms. An investor who holds shares in multiple firms in an industry could act as the “cartel ringmaster” (Rock and Rubinfeld, 2017, p. 4), passing information between the parties and monitoring compliance. The theoretical gains to the investor from this conduct would be a share of the excess rents earned by each firm.

40. This type of coordination will be familiar to competition authorities, in that it is similar to the potential role that an industry association could for instance play in facilitating cartel conduct. A recent academic study cautioned investors with holdings in competing firms, and the investor relations departments of these firms, to abstain from discussing pricing and other topics that could facilitate a collusive agreement (see, for example, Rock and Rubinfeld, 2017, p.35).

41. While common ownership is not required for firms to have an incentive to collude, it could create additional incentives for shareholders with horizontal holdings to prevent deviations from a collusive outcome (beyond the incentives that would be in place for owners of unconnected collusive firms; see, for instance, Patel, forthcoming). This is because any gains from deviation would, in the presence of common ownership, be at least partially offset by the loss of collusive profits from other commonly-held firms. However, an investor must be willing to play an active role in coordinating the cartel, thus exposing itself to antitrust liability, to have an impact on the likelihood of firm deviation.

42. However, the actual impact of common ownership on the likelihood and sustainability of collusion may not always be clear. For instance, some note that in concentrated markets, where coordination enabled by common ownership is most likely to be successful, it may not be clear that parallel pricing, output restrictions or other forms of coordination are the direct result of common ownership. In other words, firms may be incentivised to tacitly collude regardless of ownership links (see Rock and Rubinfeld, 2017).

43. Further, the mere presence of common ownership may counterintuitively create incentives for firms to deviate from a collusive agreement. Common ownership could in fact reduce the cost of punishment if it produces unilateral effects (Patel, 2017, pp. 52-53). The non-cooperative outcome that would result from punishment would be better

than that without common ownership. One recent paper provides a model that is consistent with this finding, particularly in cases where there is a certain probability that a cartel may be detected by an antitrust authority, thus lowering the expected benefits from collusion (Paha and de Haas, 2016).

44. One recent study investigates whether there is empirical evidence of coordination associated with common ownership by institutional investors. It involves the analysis of a sample of publicly-held firms in the US between 1980 and 2014, and concludes that commonly-owned firms: (1) are more likely to engage in joint ventures, strategic alliances and other explicit coordination and (2) exhibit higher innovation productivity and operating profit margins, suggesting these firms implicitly cooperate in their R&D efforts and may share knowledge. This cooperation was found to be associated with higher relative market share growth rates, higher profits and, as a result, higher stock prices (He and Huang, forthcoming).

45. In sum, there may in some cases be an opportunity for firms to collude with the facilitation of their common owners, particularly in a concentrated industry when common owners hold a significant amount of a company. Any explicit attempts to facilitate coordination would be captured under existing antitrust laws. Indeed, Rock and Rubinfeld (2017) advise institutional investors to implement a compliance policy to address this risk. However, the overall impact of common ownership on the likelihood of tacit collusion will depend significantly on whether an industry is already susceptible to collusion (based on factors such as homogenous products and multimarket interactions), and on the ability of an investor to encourage and facilitate a collusive agreement. This ability will be explored in Section 4.2 below.

4.2. Mechanisms for common ownership to affect firm behaviour

46. As described above, it is possible for investors owning shares in multiple competing firms to benefit from either unilateral effects or from coordination among those firms.

47. The key question in the literature on the subject, then, is whether the management and board members of firms linked by common minority ownership will act according to these interests. Posner et al. support this contention, stating “when institutions have incentive and ability to soften competition, it is likely they will find a way” (forthcoming, p.14). On the other hand, several authors posit that investor interests are too disparate, and influence often too minimal to achieve these outcomes.

48. This section will explore several potential mechanisms through which common ownership may affect firm behaviour; namely direct influence by institutional investors holding shares in a firm (in other words, their ability to lead to encourage anticompetitive outcomes), underlying incentives for managers to act according to diversified shareholder interests without direct influence, and the effects of institutional investor passivity.

4.2.1. Direct influence by institutional investors

49. The most straightforward mechanism through which common ownership by institutional investors could lead to anticompetitive behaviour by firms is if the institutional investor exerts direct influence to encourage such behaviour. Since institutional investors generally hold minority shares, any direct strategies would require the investor to have effective control, or at least sufficient influence (as discussed in

Section 2, the ownership of shares does not always translate to influence in the management of a firm).

50. Azar et al (2017) identify two primary means through which institutional investors may exert direct influence on firm management: voting and voice.

Voting

51. Holders of stock with voting rights, such as common stock, have the ability to cast a vote on the selection of a firm's board of directors, as well as on fundamental shifts in the firm's strategy, ownership structure or holdings (e.g. as a result of an acquisition), as well as senior management pay packages (see OECD, 2015).

52. Institutional investors that wish to encourage anticompetitive behaviour that benefits the value of their holdings across an industry could therefore theoretically use their votes to encourage the selection of board members and strategies that are consistent with this objective. The likelihood of the institutional investor's desired outcome depends on several factors.

53. The example of a strategic decision that is expected to be profitable for a firm, but negative for the portfolio value of an institutional investor's industry-wide holdings is instructive, in that it pits the interests of non-diversified investors against diversified investors. If undiversified investors collectively hold more voting shares than diversified investors, the strategic decision would be expected to be defeated. However, this may not always be the case in practise.

54. In particular, an outright majority of shares may not be required for diversified institutional investors to influence voting results. As described in Section 3, passively-managed investment funds (and some actively-managed funds) following an explicit strategy of diversification hold a growing proportion of shares in firms. Even if these funds in many cases do not hold an outright majority of voting shares in a given firm, their influence may be decisive, for several potential reasons:

- **Low levels of shareholder meeting attendance and vote engagement** among non-institutional minority investors such as individuals could amplify the influence of motivated institutional investors.²⁰ The model developed by Hansen and Lott (1996) emphasises that the level of engagement of non-diversified investors will be determinative in the decisions of a firm.
- Further, **institutional investors do, in many cases, own larger proportions of shares** than the remaining investors. For example, 25% of the shares of a firm may be sufficient for effective control if no other shareholder owns more than 1 percent (O'Brien and Salop, 2000, p. 577). Thus, dispersed shareholding, for example due to a high proportion of free float shares available for trading, can be a decisive factor in the influence of institutional investors.
- Finally, **if diversified investors voted as a bloc (forming a stable voting coalition), the marginal impact of their votes could be decisive**. Indeed, studies have found that even passive investors together exert a substantial degree of influence over firms, particularly with respect to governance and ownership structure (see for example Appel et al, forthcoming). Further, the reliance by institutional investors on a small number of proxy voting advisors, who analyse shareholder voting decisions and make recommendations, can increase the stability of voting coalitions (see, for example, the concentration of voting rights in proxy advisors in Australia, as described by Muraca and Freeman, 2017).

Critiques

55. Several critiques of the idea that voting provides a direct channel of influence for institutional investors to encourage anticompetitive conduct have been advanced; namely:

- **The interests of diversified institutional investors may not be fully aligned, undermining the stability of a voting coalition:** While diversified institutional investors may not require an outright majority of shares to shape the decisions of a firm, it is not clear that they will always be able to form a cohesive voting bloc. The heterogeneity, and sometimes rapid changes, in institutional investor portfolios as a major barrier to a common voting bloc (Rock and Rubinfeld, 2017). Heterogeneity of holdings within a given market, i.e. some institutional investors holding shares in firms that others do not could, for instance, create a divergence in incentives. Heterogeneity may also affect the incentives in place for some investment fund managers. Active investment funds compete against each other on the basis of their performance net of expenses as well as risk profile. If an institutional investor succeeds in pushing for a unilateral price increase, it would benefit the firm's competitors. This could lead to a free-rider effect, wherein other investment funds that are invested only in the firm's competitors would experience better performance than the institutional investor that encouraged the unilateral price increase. In other words, unilateral effects encouraged by an institutional investor could benefit competing investment funds more (see O'Brien and Waehrer, 2017, pp. 32-33).
- **Votes that dissent from management recommendations by institutional investors are somewhat rare:** While the incentive may exist for institutional investors to vote according to their entire portfolio's value as opposed to the individual shares of the firm, it is not clear that they avail themselves of this opportunity. The rate at which shareholders dissent from management recommendations is generally low (OECD, 2011) and many institutional investors employ proxy advisory firms (see, for example GAO, 2016) to make voting recommendations that would not take into account common ownership links. For example, one study found that proposals regarding management compensation are approved 92% of the time (Rock and Rubinfeld, 2017, p. 17), although this may be proof that institutional investors' horizontal interests benefit from existing firm management structures (per Elhauge 2017, p. 4).
- **Further, the range of issues subject to shareholder votes may constrain the influence of investors diversified across an industry:** Rock and Rubinfeld state "we see no evidence that shareholders vote on competitive strategy and no evidence that directors run on a "platform" that is directed towards a competitive strategy" (2017, p.17). Rather, the information on board candidates tends to be focused on the individuals' experience and qualifications (as opposed to proposals for firm strategy).
- **Finally, other shareholders could have a clear incentive to defeat any anticompetitive strategies that benefit investors with shares in the firm's competitors.** In particular, non-diversified investors could improve the value of their holdings by defeating any attempts to engage in unilateral decisions that internalises the profitability of rival firms (Rock and Rubinfeld, 2017, p.26).

56. Thus, it is not fully clear whether institutional investors have the ability to ensure a firm behaves in a way that takes into account its holdings in other firms through voting.

That said, voting is not the only mechanism through which shareholders can directly influence management decisions. Azar et al characterise voting as the “stick”, which is generally used only when the “carrot” of informal engagement using an investor’s voice fails (Azar et al, 2017, p.36).

Voice

57. In addition to voting, investors can influence the decisions of firm managers by directly interacting with them. A survey of institutional investors found that they prefer to engage management and board members in informal settings, i.e. outside of formal shareholder meetings, to influence firm management (McCahery et al, forthcoming). Such interactions can be more frequent and wide-reaching than formal shareholder votes.

58. Other ways for institutional investors to use their “voice” include issuing public statements regarding their preferred course of action and requesting board representation. Passive investment funds such as BlackRock and Vanguard have emphasised their frequent direct discussions with portfolio firm management (Azar et al, 2017). In an illustration of how such discussions may lead to the competition impacts described above, representatives of large US mutual funds recently gathered representatives of pharmaceutical firms in a 2016 meeting, encouraging them to maintain pricing levels and present a united front to consumers and policymakers (Chen, 2016).

59. Institutional investor engagements tend to focus on broader governance or strategic issues rather than short-term tactical considerations. Notably, 42% of investor respondents to a recent survey believed that the threat of selling shares was an effective discipline for management, without needing to resort to voting for management change (McCahery et al, forthcoming).

Critiques

60. On the other hand, several doubts have been expressed about how influential the institutional investor’s “voice” can be. The threat of selling shares may be less credible for passive investors seeking to track the performance of an index, since it will undermine performance, which is measured based on the deviation from the index, and its impact on stock price could be mitigated by high market liquidity (McCahery et al, forthcoming). There has also been an observed preference on the part of some funds to remain passive, including selling shares to avoid taking on an active role in a firm (Davis, 2008). On a practical level, while selling decisions can be made at the firm level, voting takes place at the individual fund level, suggesting that the mechanism by which a threat of sale can influence firm decisions may be convoluted (Rock and Rubinfeld 2017, p.14).

61. More generally, despite their public declarations, it is also not clear whether institutional investors choose to exert the full range of influence that may theoretically be at their disposal. A majority of institutional investors report having 5 or fewer staff members dedicated to engagement with their portfolio companies (see, for instance, Çelik and Isaksson, 2014, p. 109, and McCahery et al) –a limitation that could be particularly pronounced for passive investment funds seeking to minimise fees, and which hold shares of hundreds of firms. So it is not clear whether institutional investors truly take more than the “formulaic” approach to corporate governance described by Posner et al (forthcoming, p.6).

62. Finally, there may exist a conflict of interest between institutional investors that, on the one hand, manage and vote shares on behalf of clients and, on the other hand,

obtain fees from firms (including their portfolio firms) to manage pension and other investment funds (see, for example, Davis, 2008). Relatively little research or debate has explored the possibility that institutional investors may hold back on aggressively exerting governance influence on portfolio firms for the sake of obtaining other business from these firms.

63. Thus, institutional investors report having direct engagements with management, often prior to exercising voting rights to express dissent. However, while numerous anecdotal examples of such engagement have been identified, it is not clear whether institutional investors have the capacity or inclination to actively engage with the majority of their portfolio firms.

4.2.2. Underlying management incentives

64. While there exist several routes for diversified institutional investors to exert direct influence on the management of a firm, recent studies of common ownership emphasise that communication between investors and management is not required for competition effects to manifest themselves (see for example Elhauge, 2016; Azar, 2017; Patel, forthcoming). In particular, management may be obligated or incentivised to act according to diversified shareholders' interests.

65. Firm managers are aware of the identity of their shareholders, and are likely to be particularly sensitive to the views of institutional investors with substantial blocks of shares, resulting in a tacit shift of behaviour. Managers could, for example, implicitly consider the impact of a business decision on the weighted portfolio value of shareholders, as set out in the models described in Box 5 above.

66. Even if the main levers of direct institutional investor influence, selling shares or voting to replace management, are not utilised or are unsuccessful, public expressions of institutional investor discontent do not reflect well on management, and may affect the views of other shareholders. Thus, management may actively seek to avoid incurring the dissatisfaction of large shareholders, even without being explicitly "threatened".

67. Certain groups of institutional investors, particularly index funds, can be implicitly considered a single bloc by firm managers given their roughly aligned interests. This would enhance the weight institutional investors hold in the minds of management, and would facilitate efforts to cater to their interests.

68. Additional reasons firm managers will, without being instructed to do so, take into account institutional investor interests were identified by Elhauge, including "out of a sense of ... gratitude, to gain support in future elections, to enhance future job prospects, because executive compensation methods align with shareholder interests" (2016, p.1270). The topics of executive compensation and fiduciary duty will be explored further below.

Executive compensation

69. Executive compensation creates powerful incentives for management to shape their behaviour and strategies. Conceptually, compensation that is tied to the performance of the firm, such as meeting revenue or profitability targets, or the stock price, can help align management interests with those of shareholders. Research served to refine this insight; for example, Holmstrom advised that compensation be tied to a firm's performance *relative to the market*, as this would eliminate certain agency problems and "provide for better risk sharing" (1982, p. 339).

70. However, in practice, the incentive mechanisms at work in executive compensation packages are often opaque and tied to market-wide performance, rather than relative performance of the firm (see, for instance, OECD, 2009, p. 19; Jenter and Kanaan (2006)). Notably, the value of stock options, a common component of executive pay packages, is tied to both industry and firm performance, and thus does not incentivise a manager to pursue strategies that may be detrimental to the former and beneficial to the latter.

71. Several recent papers observe that basing executive compensation on industry-wide performance can align management incentives with those of institutional investors with diversified holdings across an industry. This alignment could conceivably come at the expense of non-diversified investors, who would prefer more aggressive competition that improves firm performance at the expense of its remaining competitors.

72. Anton et al. (2016) construct a theoretical model and empirical analysis to investigate these theoretical incentives. They find that executives are more often compensated for industry-wide performance as opposed to a firm's relative performance when there are strong common ownership links. In addition, they find that higher degrees of common ownership lead to unconditional management pay, and note that passive investment funds have been found to consistently approve management pay packages, suggesting they are in favour of the status quo (Anton et al, 2016, p.1).

73. Schmalz (2015) provides an anecdotal example of institutional investors overriding an effort by an activist investor to spur more aggressive competition in his characterisation. In this case, passive investment firms voted against a campaign to: (1) encourage "best in class revenue growth" (i.e. relative firm performance) and (2) achieve market share gains through more aggressive R&D investment. The campaign also criticised the decision by the CEO of the firm to sell a significant amount of her shares (reducing her financial stake in the firm) and providing a favourable settlement to a competitor in a licensing dispute. Schmalz states "textbooks would consider all of these measures value-enhancing improvements of DuPont's corporate governance."

74. After the rejection of the campaign, Schmalz observes that the stock price of the firm in question fell, whereas the stock price of the firm's largest competitor rose²¹. Notably, Schmalz also observed that there was a significant level of common ownership linking the two firms; 3 large institutional investors held a combined share of over 15% in each firm. These two firms jointly "dominated" (in Schmalz's words) a market that constituted the majority of one of the firm's revenues.

Critiques

75. The idea that management compensation packages may create incentives to act in the interest of diversified investors, at the expense of other investors, has been the subject of some critique. O'Brien and Waehrer argue that performance-based compensation such as stock options "gives a manager an incentive to maximize the profits of the firm, and it does not give the manager an incentive to take actions that increase industry profits at the expense of own-firm profit" (2017, p.5).

76. In addition, the analysis by Anton et al that links common ownership with industry performance-based compensation has been criticised for its use of a modified Herfindahl-Hirschman index (see Section 4.4 for further discussion) and its data sources (Rock and Rubinfeld, 2017). However, given the vigorous debate on the subject, the

executive compensation channel of influence is a significant potential issue that merits further investigation.

77. Further, the existence of a legally-enforceable fiduciary duty could reduce the likelihood that a firm manager or board will cater to investors whose ownership interests are diversified across an industry, at the expense of undiversified investors. In general, the board of directors and management of a firm owe a fiduciary duty to shareholders and, in some cases, the firm itself. For example, legislation in several countries sets out for board members of a firm (OECD, 2015, p. 46):

- a **duty of care** requiring “board members to act on a fully informed basis, in good faith, with due diligence and care”; and
- a **duty of loyalty** to the company and all its shareholders, which underpins equitable treatment of shareholders and remuneration policy.

78. Any efforts to grant advantages to one group of shareholders over others, such as insider trading, are considered violations of the latter duty regarding equitable treatment. Thus, board members would be obligated not to permit corporate strategies that cater to one group of shareholders at the expense of another. This would conceivably include strategies that depart from firm profit maximisation and instead seek to promote industry profit maximisation in accordance with common ownership interests.

79. Thus, even if institutional investor interests could, theoretically, be pursued at the expense of the remaining undiversified investors, whose influence may be less concentrated, organised or leveraged, it would be a violation of fiduciary duty and could in many jurisdictions expose board members and management to liability. This calls into question the proportionate control assumption used in recent theoretical models of common ownership, which imply that management will take into account shareholder interests in proportion to their relative stake (see for instance O’Brien and Waehrer, 2017, p.6).

80. However, fiduciary duty may have a limited impact on the behavioural manifestations of common ownership in practise. Legal action for the violation of a fiduciary duty may have limited odds of success (O’Brien and Salop, 2000, pp. 580-581). Further, since all shareholders would benefit from collusive conduct that is facilitated by common ownership, fiduciary duty does not by itself address all competition concerns associated with common ownership.

Institutional investor passivity as a mechanism of influence

81. There is an additional way in which common ownership by institutional investors may affect firm management: investor passivity. By failing to play an active role in pushing for aggressive competition, a role in which professional managers of large blocks of company stock could arguably be well-suited, are institutional investors contributing to a slackening of competition and potentially tacit collusion via inaction? Elhauge argues “it suffices that institutional investors have incentives to fail to exercise their corporate-governance rights in a way that demands maximizing individual corporate performance over industry performance” (2016, p. 1270).

82. As described above, an active investor without diversified holdings across an industry could have different incentives relative to an investor that is fully diversified across an industry. The former could be more likely to, for instance, encourage firm management to adopt strategies that result in a gain in market share for the firm. These strategies will require effort and risk-taking on the part of management, including

research and development efforts, entering new markets after conducting market research, cutting prices and expanding production capacity (see for example Azar et al, 2017, pp. 31-32).

83. It is unclear whether firm managers would accept the risks of these efforts without pressure from investors, particularly when compensation is less geared toward individual firm performance, as described above. Without active influence from substantial investors such as institutional investors, management could be expected to avoid such risk and effort when it does not translate into clear personal gains. To this point, Anton et al describe how institutional investors permitting management to “live a quiet life... with flat incentives, high profit margins, and little competition. In fact, [institutional investors] may help to achieve such an outcome simply by crowding out and occasionally voting against activist investors who would otherwise attempt to induce tougher competition” (2016, p. 37).

4.3. Potential efficiencies and other potential benefits from common ownership

84. In contrast to the theories of harm described above, some studies have identified potential efficiencies or other benefits associated with common ownership. To the extent these benefits are verifiable and passed on to consumers, they should form a part of any effort to analyse the competition impacts of common ownership.

85. Common ownership can theoretically generate the type of efficiencies commonly associated with mergers. An institutional investor could facilitate beneficial collaboration such as joint bargaining with suppliers to reduce costs, R&D coordination or sharing technical knowledge (see, for example, He and Huang, forthcoming, and Grossman and Shapiro, 1986). Such efficiencies could be evaluated as they would be in a merger context, with respect to their magnitude, the degree to which they are passed on to consumers and the associated risks for coordinated effects.

86. In addition, common ownership could theoretically generate efficiency benefits that accrue to investment fund clients, or capital markets generally, as opposed to customers of the firms in question (discussed by Baker, 2016, Posner et al, forthcoming, and Patel, forthcoming). Clients benefit from the fact that institutional investors offer a level of diversification that could be difficult to achieve economically on their own. Capital markets could benefit from the liquidity provided by frequent institutional investor transactions (e.g. portfolio rebalancing transactions conducted by index funds to ensure they track their target index). Finally, well-resourced institutional investors could develop industry-specific knowledge that would enhance their corporate governance influence on portfolio firms, to the benefit of their clients (see, for instance, OECD, 2011).

4.3.1. Critiques

87. The actual efficiency benefits of common ownership may be more ambiguous than described above. For instance, Elhauge (2016) posits that the efficiencies that are normally the result of traditional mergers are not manifested in common ownership transactions. Further, he argues that “virtually all diversification benefits could be achieved by investing in one corporation in each market” (*Ibid*, pp 1303-1304).

88. Theoretical efficiencies from common ownership can also be contrasted with those generated from cross ownership. Companies invest in minority equity shares of other firms for a range of reasons, including spreading costs and risks, accessing new

technologies or innovative managerial practices, establishing and strengthening business relationships, accessing new markets, and conducting joint activities, such as R&D (see OECD, 2008). Evidence of such efficiencies does not appear to have been identified in the case of common ownership, consistent with the purely financial investment motivation of transactions giving rise to common ownership.

89. More fundamental, however, is the question of who benefits from any potential efficiency. Diversification, collaboration and corporate governance efficiencies may not directly generate welfare gains for the customers of the firms in question, and so competition authorities may well be reluctant to accept them –particularly if they are accompanied by unilateral effects or coordination. In other words, the hypothesised efficiencies could be unlikely to benefit consumers, the focus of antitrust policy, in any event. Finally, if diversified investments within an industry facilitate coordination, any diversification benefit would be minimised, as firms would make joint decisions and therefore be subject to similar levels of risk.

Box 6. Key points in Section 4: competition effects stemming from common ownership

- Two types of theories of harm have been proposed, which set out the theoretical incentives for institutional investors with diversified holdings across an industry to encourage anticompetitive conduct:
 - Common ownership may incentivise unilateral price increases (or reductions in quality) that may be unprofitable for a firm, but beneficial for its investors if they also hold shares in its competitor(s).
 - Common ownership may create additional incentives to investors to facilitate collusion. This risk could be particularly pronounced in oligopolistic industries.
- These theories of harm assume that diversified investors have the ability to exert control, or at least influence, over the decisions of a firm. Numerous channels through which this may occur have been identified, and vigorously debated, in the antitrust literature. These include
 - direct influence (via voting or direct engagement with management),
 - tacit management incentives (including pay that aligns with industry, rather than firm, performance), and
 - institutional investor passivity that fails to encourage vigorous competition.
- Critics question these mechanisms of influence, emphasising the heterogeneity of institutional investor interests and the fiduciary duties placed on managers to act in the best interests of a firm, among other factors.
- Several studies have attempted to empirically measure the effect of common ownership on prices and executive compensation in concentrated industries and some of them see adverse relationships. These studies rely on an interpretation of a modified Herfindahl-Hirschman Index (MHHI), the applicability of which is the subject of some debate.

5. Potential policy responses to common ownership

90. While the debate about the competition impacts of common ownership is in its early stages, some potential policy responses have been identified by those who have concluded that common ownership harms competition. This section will set out some of the proposed policy responses and further policy questions to explore.

5.1. Proposed competition policy responses

91. There have been four recently proposed responses for competition policy to address concerns associated with common ownership: using existing competition legislation, setting a hard limit on levels of common ownership, establishing a safe harbour for common ownership and considering the impact on common ownership of investment fund mergers. These proposals focus in particular on the role of merger review mechanisms in assessing common ownership. Since common ownership resulting in influence or control of a firm (the definitions of which vary across jurisdictions) would already be undoubtedly captured under extant merger regulation, the discussion below focuses on non-controlling minority share acquisitions.

5.1.1. Addressing potential competition issues associated with common ownership under existing legislation

General proposals

92. The application of existing competition laws to common ownership has, with the exception of the US (described below), not been extensively debated in the literature. The precise application of current merger rules (summarised in Section 2) may turn on the interpretation of the degree of control or influence involved in the transaction. However, most merger control regimes are unlikely to be able to capture minority acquisitions by investment funds, even if they occur in parallel and create a stable coalition of investors that translates to control. The same is true for most cartel regimes with respect to potential tacit collusion facilitated by, or at least incentivised by, common ownership. Thus, the application of existing legislation to common ownership appears limited to sufficiently large acquisitions, or to explicit collusive agreements facilitated by institutional investors that could be prosecuted as would any other cartel with a third-party engaging in facilitating practices.

Proposals specific to US legislation

93. Elhauge (2016) argues that legislative change is not required under US antitrust law and that US antitrust agencies or private parties who can demonstrate harm can already seek remedies for competition problems associated with common ownership. Specifically, he highlights provisions in the Clayton Act (s. 7) that prohibit “any stock acquisition that leads to anticompetitive impact”, noting that this could be interpreted to include transactions resulting in common ownership.

94. The “solely for investment” exemptions (described in Box 7 below) could be interpreted as not applicable to the situation of common ownership since, in Elhauge’s view, institutional investors have an influence on the firms they own and are not simply passive in the management of the firm.

Box 7. The solely for investment exemption

In the context of the “*solely for investment exemption*”, the plaintiff must show actual lessening of competition, in contrast to the general clause in the Clayton Act, which requires the plaintiff to show only likely effects on competition to claim damages. The main case-law supports the view that a transaction is “*solely for investment*” if the acquirer of the stock does not gain influence over the actions and business conduct of the target company.²² On the contrary, if the acquirer obtains active control of the firm in which the investment is made, the acquisition will not be considered “*solely for investment*”.²³ The “*solely for investment*” test will not be satisfied even if the acquirer does not acquire control but just the ability to influence the actions of the target firm, for example through representation rights allowing the acquirer to appoint a member of the target’s board.²⁴ Similarly the “*solely for investment*” exemption is not granted if the acquirer can access sensitive information regarding the activities of the target company.²⁵

95. For antitrust agencies, Elhauge calls for pursuing common ownership shareholdings under the Clayton Act using a standard rule, based on the effect of past or potential transactions on a market’s MHHI (a modified HHI index, described in Box 5

above). Under this rule, transactions resulting in common ownership would automatically be investigated for their impact in prices (i) if they result in a MHHI delta of over 200, and (ii) take place in concentrated industries (where the competition risk of common ownership may be most pronounced), as identified by a MHHI over 2500.

96. In addition, Elhauge expresses the view that institutional investors may be held liable under the Clayton Act for private damages resulting from acquisitions that lessened competition.

97. Institutional investors may avoid liability in Elhauge's interpretation by either not acquiring shares in competing firms active in oligopolistic industries, or by making a specific "commitment" not to vote this stock. He indicates that the former strategy would only result in a minimal loss of diversification ("because institutional investors can remain invested in one firm in each concentrated market and thus remain diversified across all industries in the economy" (p. 1314)), and could produce benefits for the investor by giving them an expanded influence on the corporate governance of the firm, via a more concentrated ownership stake.

98. Elhauge also notes that passively-managed index funds may not be captured by his proposal if their acquisition of shares does not exceed the delta MHHI threshold. This is, in his view, likely in current conditions given that pure index funds hold relatively small proportions of firm shares (p. 1316).

Critiques

99. Rock and Rubinfeld (2017) disagree with Elhauge's characterisation of the Clayton act, and in particular the implications of his narrow interpretation of the "solely for investment" exemption. However, in the event that a consensus is reached that common ownership is unambiguously negative for market competition, Rock and Rubinfeld acknowledge there may be scope for amending legislation and narrowing the investment exemption accordingly.

100. Beyond the precise legal interpretation, concerns have been expressed about the compliance challenges of Elhauge's proposal: significant uncertainty may be caused by differing MHHI interpretations and the rapid changes in investment fund portfolios (see, for example, Posner et al, forthcoming).

101. Further, the burden and risk of a competition authority providing market definitions to facilitate firm compliance self-assessment could be substantial. Would an authority be obligated to define every oligopolistic market in which common ownership exists? And if it were to do so based on a cursory effort, would this affect its success in enforcement or merger reviews?

102. Finally, the proposal does not address cases where institutional investors have parallel interests, and therefore could form a stable voting coalition. Thus, it would not capture cases where individual fund holdings are relatively small, but similar patterns of ownership across multiple investors could result in competition concerns.

5.1.2. Setting a hard limit on common ownership

103. Posner et al (forthcoming) propose an alternative approach that would require the issuance of additional policy by antitrust authorities, and potentially legislative change. They propose a hard limit on common ownership as follows (p. 33):

No institutional investor or individual holding shares of more than a single effective firm in an oligopoly may ultimately own more than 1% of the market share unless the entity holding shares is a free-standing index fund that commits to being purely passive.

104. The policy would apply to fund management firms as a whole, rather than to holdings within a fund, and investment in more than “single effective firm” is defined as an investor holding shares in multiple firms whose combined market share exceeds the average per-firm market share in the industry. Posner et al would require antitrust agencies to develop an annual list of oligopolies to which the policy applies. Finally, the definition of “passive” that Posner et al use is that a fund undertakes no communication with management or directors of the firm, that it casts its votes proportionately to the remainder of the votes cast in a shareholder election, and that it trades based on clear, non-discretionary public rules.

105. The benefits of this approach as identified by Posner et al include ensuring that institutional investors focus on the performance of their portfolio firms, while still permitting fully diversified funds to operate on the condition they do not influence the management of the firm. Thus, funds will be permitted to compete either (1) on their ability to follow an index in an automatic, low-cost fashion for ultimate investors prioritising diversification, or (2) on the basis of performance and the quality of corporate governance inputs they provide. In sum, “The bottom line is that our modest policy would generate enormous social gains by reducing anticompetitive behaviour while causing only trivial losses in diversification, and very likely improving corporate governance” (p. 43).

Critiques

106. Several concerns about instituting hard limits on common ownership have been expressed. These include:

- **Current evidence is not sufficient** to justify the relatively strong step of instituting a per se rule, which is the strongest approach in competition law (per O’Brien and Waehrer, 2017, p.36)
- A hard limit **may require large investment management firms to split up** so that individual funds within the firm do not collectively surpass the limits set out. This could increase management costs for consumers and lead to distortions in fund management strategies.
- **The burden on investment funds (or competition authorities), may also be significant** if it requires a comprehensive market definition exercise to determine whether any limits are surpassed in a share acquisition. Obligations to more actively manage (or at least monitor) portfolios beyond tracking fit with an index would necessarily involve higher management expenses, thus undermining one of the key benefits of index funds.
- Hard limits **may capture many instances of common ownership that do not result in competition problems**, and so they have been characterised as “overbroad” (see Elhauge, 2016, p. 1203, who noted that hard limits may capture holdings that would not exceed the limits set out in his proposal).
- Limitations on index fund voting (“putting the shares in the drawer”, as described by O’Brien and Waehrer, 2017) could **have corporate governance implications**, such as an amplification of activist shareholder voice and a resulting effect on orientation of the firm toward short-term, rather than long-term, performance. As

noted in Section 5.2, this outcome is directly in opposition to the objectives of corporate governance policy, which seeks to maximise shareholder engagement. The dynamics of an industry (entry and exit in specific markets, for instance) **may also lead to investors surpassing limits on ownership in a passive way**, well after their acquisition of the shares in question. For example, if a firm were to exit a market, the market share of the remaining firms in the market would increase, and could mean that an investment fund that was previously in compliance with statutory limits on common ownership could now surpass these limits. Thus, funds would be forced to continually monitor every market in which they have investments to ensure no changes have occurred that would require the sale of shares, creating substantial uncertainty (see for instance Posner et al, forthcoming, p.9). The outcomes could be particularly dramatic if a portfolio firm enters a market that is relatively unrelated to its current core business, causing an investor's holdings across said market to surpass the limit (as described in Baker, 2016, pp. 225-226).

5.1.3. Establishing safe harbours for common ownership

107. Rock and Rubinfeld (2017) have offered an alternate proposal to clarify the application of competition law to common ownership and provide institutional investors with litigation certainty. In particular, they propose the introduction of a merger control safe harbour for investors with 15% or less of the shares of a firm, without a representative on the firm's board and without engagement that extends beyond "normal engagement" (such as on the subject of board member selection, compensation, and shareholder rights).

108. The 15% threshold proposed by Rock and Rubinfeld is based on an assessment of the proportion of shares needed for an investor to exercise influence over a firm (pp. 29-30). To justify this threshold, they indicate that at least 20% is required to place an individual on a firm's board, and that antitrust authorities generally have not challenged acquisitions below this level (2017, p. 30).

109. O'Brien and Waehrer (2017) propose a more narrow safe harbour based on the MHHI. In particular, while they express scepticism about the ability of the MHHI to measure the potential price impacts of common ownership (as set out in Annex A), they suggest that it can be a helpful tool (1) as a rough gauge of potential competition impacts when a clear structure of shareholder control can be identified; (2) when evaluating joint ventures; or (3) extreme cases wherein there is a divergence between financial ownership and voting shares.

Critiques

110. The proposed safe harbours have been criticised by those who point to potential competition problems (Elhauge, 2017). In addition, it is not clear whether these proposals would, in effect, exempt conduct that could result in competitive harm. Consider, for example, several institutional investors with individual shareholdings of less than 15%, but combined shareholdings that are sufficient to exercise influence. If these investors have incentives that are aligned in terms of diversification across an industry, and are able to exert influence on management pay, for example, the proposed safe harbours could create the risk of Type II errors. However, uncertainty about the actual competition impacts of common ownership could justify this risk in the name of avoiding unnecessary harm to investors and the functioning of capital markets.

5.2. Considering policy perspectives outside the realm of competition law

111. As demonstrated in the preceding sections, there is still no consensus on whether common ownership poses a competition problem or the extent to which it does, nor is there agreement on how competition law and policy should respond, either within existing frameworks or with the addition of new concepts. Further complicating this situation, alternative policy perspectives may introduce additional, or competing, concerns.

5.2.1. Corporate governance

112. Corporate governance concerns could, for example, be an important perspective in the design of any measure to address competition problems stemming from common ownership. In the case of institutional investor participation in shareholder voting, corporate governance policies may run contrary to some competition policy proposals, whereas in the case of the concentration of proxy voting, there may be a common interest in addressing concerns.

Institutional investor participation in corporate governance

113. Policies regarding corporate governance have, in fact, sought to encourage an active role by institutional investors in the corporate governance of their portfolio firms (see OECD, 2011, for a comprehensive overview of this policy perspective). This would run contrary to some of the competition policy proposals described in Section 5.1 above regarding institutional investors voting their shares.

114. In particular, the advent of passive funds that seek to track the performance of a specified index could be problematic because it introduces a large share of owners (or at least holders of voting rights) that do not focus on spurring management to perform well.

115. Different from traditional funds that are compensated according to their performance and role in corporate governance, broadly-invested index funds have no incentive to push for improved market share or profitability because they are not mandated to do so. As described by Gilson and Gordon, “institutional [investment] intermediaries compete and are rewarded on the basis of “relative performance” metrics that give them little incentive to engage in shareholder activism that could address shortfalls in managerial performance” (2014, p.7). They thus characterise hedge funds and other non-diversified investors as an important complement to passive investment strategies.

116. Competition policies that aim to prevent index funds from voting their shares would only exacerbate the situation, leading to a growing proportion of firm owners effectively being silent. In fact, they may push a greater share of funds into a passive role, given the limitations to active management, which could hamper performance, especially recognising the post-financial crisis emphasis on low management fees. This situation is particularly troubling from a corporate governance perspective because large institutional investors could, at least theoretically, employ resources to actively and beneficially participate in corporate governance – resources that would not otherwise be available to individual investors.

Proxy voting

117. Corporate governance policies are centred around encouraging investment funds to devote *more* attention and resources to the governance of portfolio firms. As a result, there is also growing concern about the concentration of voting rights, and potential conflicts of interest, associated with institutional investors employing proxy advisory firms to analyse shareholder voting decisions. This concentration could be a source of concern from both a corporate governance and competition policy perspective.

118. Some have called for industry codes or other policy responses to this phenomenon (see, for example in the case of Australia, Muraca and Freeman, 2017). These proxy services could be a catalyst for common ownership competition impacts, since they could serve to explicitly identify the common interests of institutional investors within an industry and form voting recommendations accordingly.

Index inclusion

119. A distinct corporate governance policy challenge relates to the rules for a firm to be included in a stock index, such as the Standard and Poor's 500 Index (S&P 500). These rules are particularly relevant for the issue of common ownership, as they effectively determine the composition of a passively managed index fund's portfolio, if the fund is targeted at tracking the index in question.

120. For example, in 2017, S&P announced a new policy for its 500 index that barred firms with multiple classes of shares, i.e. voting and non-voting shares, from inclusion in the index (although existing firms in the index with multiple class share structures would not be removed). The decision was made after the decision of technology firm Snap Inc. to only offer nonvoting shares in its initial public offering (Hunnicut, 2017).

121. While this decision is in line with a desire to encourage institutional investors to actively participate in the governance of their portfolio firms by retaining voting rights, some commentators had alternative theories. Spross (2017) linked S&P's decision to common ownership –and in particular a desire on the part of index funds to retain control over their portfolio firms and prevent aggressive competition that would weaken the fund's investments in competitors. In particular, he opined that this was an effort to prevent technology firm founders from retaining voting control of a firm, given these founders would have firm rather than industry performance as a focus.

5.2.2. Financial stability

122. An example of a policy perspective that may align with the competition perspective when applied to the issue of common ownership concerns the stability of the financial system. In brief, those concerned with the financial system stability may wish to promote the separate ownership of banks to reduce the likelihood that the failure of one bank will result in the failure of others. Siciliani and Norris (2017) observe the degree of common ownership of the largest UK banks and note “common ownership also entails common exposure to contagion effects”.

123. However, in other cases, financial stability concerns may in fact produce an increase in common ownership, and therefore be at odds with a competition perspective. In particular, policymakers seeking to avoid bank failures in times of crisis could call on institutional investors to provide emergency capital, and may therefore be less likely to promote competition policy measures regarding common ownership when experiencing systemic threats.

124. In sum, from a financial stability perspective, procompetitive common ownership measures could in theory reduce risk exposure and, at the same time, stand in the way of efforts to prevent the failure of a given financial institution.

Box 8. Key points in Section 5: Potential policy responses to common ownership

- A range of competition policy responses have been proposed to address potential issues associated with common ownership:
 - One proposal calls for existing antitrust laws (at least in the US) to be leveraged by competition authorities and private parties to pursue cases associated with common ownership.
 - Another proposal calls for the imposition of hard limits on the amount of common ownership permitted by a given investor in concentrated markets, with exemptions for purely passive investors. However, this proposal could involve a substantial burden on investors and competition authorities, and may involve the risk of overbroad, or insufficient, enforcement.
 - Others have highlighted the uncertainty of the current state of affairs for institutional investors, and have proposed establishing safe harbours to avoid negatively impacting investment fund business models.
- Alternative policy perspectives may offer either complementary or opposing considerations when considering the competition impacts of common ownership. For instance, corporate governance policy may indeed seek to promote more institutional investor involvement in the management of firms, which could run contrary to competition policy proposals seeking to limit the influence of institutional investors with horizontal holdings. Similarly, financial stability policy could see common ownership as a contagion risk, creating common ground with competition policy, or as a measure for avoiding institutional failures, in which case it may exacerbate competition concerns. Thus, a multi-disciplinary perspective may be important for addressing common ownership issues.

6. Existing tools for competition authorities to analyse common ownership

125. The preceding discussion has made clear that there is substantial disagreement about the harm associated with common ownership, efforts to estimate it empirically, and proposals for addressing competition problems it may cause. Before adapting their approaches and legislation, competition authorities may therefore wish to conduct further analyses of common ownership in their jurisdictions. This section introduces some potential approaches for competition authorities to do so, including: conducting market studies when common ownership concerns may be present, considering whether current merger and cartel legislation permits them to test theories of harm, consulting with financial regulators as well as academic partners, and considering the impact on common ownership of investment fund mergers.

126. To begin to improve internal knowledge and awareness of common ownership problems, one tool at the disposal of many competition authorities is a market study, which can investigate market-wide competition problems, including the types of concerns associated with common ownership. Given the market-specific knowledge possessed by

their case handlers, among other sources, authorities tend to have in mind at least some sectors in which they suspect competition is not functioning well. Depending on the market and the degree to which institutional investors play an important role, common ownership could be a potential line of inquiry in such a market study. Statistics associated with institutional investor ownership can, for example, be publicly-obtained in many jurisdictions. Thus, competition authorities can use market studies as a method of exploring the competition impacts of common ownership, and any necessary enforcement acts or legislative changes could be identified once these impacts are clarified. Ex-post analysis of past merger decisions could also help identify whether common ownership is indeed a gap, or missing perspective, in merger control.

127. In jurisdictions where merger review is not limited to transactions involving a change of control, competition authorities may wish to consider whether there is scope for further investigation of common ownership. Specifically, they may wish to examine whether investors may have acquired substantial influence in multiple competing firms active in a concentrated market without triggering merger review, and therefore whether they should consider reviewing future acquisitions by institutional investors in these markets.

128. Common ownership can also be considered in the context of competition policy reforms seeking to capture certain minority acquisitions, for example as proposed by the German Monopolies Commission for consideration by the European Commission (Monopolkommission, 2016). Careful consideration should be given to the impact on capital markets and investors, however, since competition policy measures will need to be balanced with the need to ensure liquidity in capital markets and the accessibility of low-cost investment products for consumers.

129. Further, common ownership can be considered as part of the analysis of transactions that are captured under merger control legislation. Box 9 describes the approach taken by the European Commission in the Dow/DuPont case.

Box 9. European Commission analysis of common ownership in the Dow/Dupont merger

In its decision regarding the merger between two large chemical producers, the European Commission conducted analysis of the level of common ownership among the largest players in the relevant markets.

As a result of substantial levels of common ownership, the Commission concluded that market share measures (including the HHI) “underestimate the expected non-coordinated effects of the Transaction” (p. 380).

The analysis focuses on R&D efforts, and in particular notes that common ownership may reduce the tendency of firms to invest in such efforts, when they may harm the interests of competing firms held in the same institutional investor portfolio. The decision states:

...the decision taken by one firm, today, to increase innovation competition has a downward impact on its current profits and is also likely to have a downward impact on the (expected future) profits of its competitors. This, in turn, will negatively affect the value of the portfolio of shareholders who hold positions in this firm and in its competitors. Therefore, as for current price competition, the presence of significant common shareholding is likely to negatively affect the benefits of innovation competition for firms subject to this common shareholding. (p. 383)

Thus, the Commission concluded that competitors of the post-merger firm may not engage in aggressive R&D efforts that would offset the competition effects of the transaction.

In addition, the Commission observed that passive investors “exert influence on individual firms with an industry-wide perspective” (Annex 5, p.7), and that dispersed ownership exaggerates that influence.

Source: Commission Decision, Case M.7932, Dow/DuPont, 27 March 2017.²⁶

130. The application of cartel rules to situations where common ownership may be having competition impacts should also be considered. With respect to explicit collusion, the extent to which there is a risk of facilitating practices by institutional investors, and whether such practices are detectable, could be assessed in each jurisdiction. Common ownership could also be analysed from the perspective of whether it encourages pure conscious parallelism, and therefore tacit collusion.

131. Given that common ownership has implications for other areas of policy, competition authorities may also wish to engage with securities regulators, as well as macro prudential regulators, to determine the repercussions of any potential change in competition policy. Cooperation with the academic community studying common ownership, particularly through information sharing, could also be pursued. As Kennedy et al state (2017, p.23):

The study of common ownership is important not only for antitrust and regulatory policy, but also for the economic theory of the firm. A workhorse assumption in economics is that firms behave to maximize their profits, consistent with the Fisher separation theorem. This assumption is justified when owners have the same objectives, but it has

less resonance when owners have divergent interests. How firms behave when this assumption is relaxed is an ongoing area of research that would benefit from a better understanding of how ownership translates into control and ultimately firms' decisions.

132. Finally, while this paper has primarily focused on the effect on competition of the acquisition by an institutional investor of stakes in competing firms, a similar set of considerations could be applied to the effects of mergers between institutional investors. Azar et al note that “regulators should keep in mind that consolidation in the asset management industry can adversely affect competition in the product markets of their portfolio companies” (2017, p.39). Such an analysis could also take into account the possible spill-over effects of the merger on ownership concentration in other markets, and could ask many of the questions asked in this paper regarding mechanisms of influence, and engagement with management.

7. Conclusion and further questions to explore

133. Common ownership is becoming increasingly common in at least some equity markets, due to a range of factors including the increasing popularity of passively managed index funds, and the fact that new public equity listings have not kept pace with the supply of investor capital. Examples of substantial common ownership by institutional investors have been reported in concentrated sectors including finance, air travel, consumer electronics, chemistry and pharmacies.

134. There is vigorous debate over whether this phenomenon translates to competition problems in a market. Theories of harm with respect to both unilateral effects and coordination have been advanced. In essence, by aligning the interests of the owners of competing firms, common ownership may increase the likelihood of unilateral pricing behaviour that would not otherwise be profitable, as well as collusion (either tacit or explicit). Put differently, institutional investors have an incentive to encourage unilateral effects that increase the value of their portfolio, and to facilitate collusive outcomes. Critics contend, among other things, that the heterogeneity of institutional investor interests may minimise these incentives.

135. Another key thread of the common ownership debate concerns the ability of institutional investors with minority shares in competing firms to affect firm conduct. Proponents of the theory that common ownership results in competition problems indicate that there are many channels through which institutional investors can influence firm policy, including by influencing the outcome of shareholder voting when ownership is dispersed, and by orienting management compensation toward industry performance, rather than relative firm performance. In addition, they point to management incentives that do not require explicit action on the part of institutional investors for the latter's particular interests to be taken into account. Critiques of these theories focus on the limited influence of institutional investors, and the implied breach of fiduciary duty such management behaviour could imply.

136. Debate has also been particularly intense with regard to proposals to address potential competition problems associated with common ownership. This paper has set out the key elements of each argument. It has also described some alternative perspectives, particularly corporate governance policy, that should not be ignored in any

effort to tackle common ownership issues. In particular, a balance may need to be sought between the benefits of portfolio diversification, corporate governance effectiveness, macroeconomic policy objectives (including financial stability), and other efficiency considerations.

137. Despite the critiques of empirical models estimating the effect of common ownership, as well as the incentive and ability of institutional investors to influence firm behaviour in a manner that benefits their industry-wide ownership interests, the underlying conceptual concerns associated with common ownership remain. This can have profound implications for competition, as well as our understanding of market functioning generally, and therefore merits further academic examination.

138. In the meantime, competition authorities may wish to use market studies as an opportunity to gain visibility into markets with substantial institutional investor ownership, and may also wish to consider whether there is scope for examining common ownership under extant merger review and cartel legislation. They can also begin consulting financial sector regulators and policymakers on potential policy solutions.

139. Some key questions for authorities to consider are captured in the Box below.

Box 10. Open questions for further research on common ownership

The extent of common ownership

- How does the degree of common ownership vary among jurisdictions, and for what reasons does it vary? Will this have any bearing on the potential associated implications for market competition?
- Are there any indications that common ownership arises in privately-held firms?
- What types of investors tend to own shares across multiple competing firms in a market? E.g. are they predominantly passive investors or do investors with active investment strategies also pursue such shareholdings? Do they also exhibit vertically-diversified shareholdings?

Institutional investor incentives and ability

- Do institutional investors have the capacity to evaluate whether a decision by a portfolio firm will improve or worsen the value of their portfolio, taking into consideration their horizontal and vertical holdings?
- What degree of parallel shareholding (institutional investors holding a similar share of most or all firms in a sector) is present in oligopolistic industries? How much is attributed to passive investors?
- Do existing competition laws adequately capture the influence of minority shareholdings, given that:
 - institutional investors may exert an outside influence;
 - the incentives of horizontally-invested institutional investors may be closely aligned, and so they may vote as a single bloc or coalition
 - voting decisions can be concentrated in the hands of proxy advisors
 - passive diversified investors do not have the same incentives to spur firm performance that active investors have

Management incentives and behaviour

- Are current fiduciary duty laws an effective safeguard against company boards and management making decisions that cater to institutional investors with shares in competitors?
- What is the impact of the current approach to executive compensation on incentives for firms to compete? Have agency issues become more pronounced as a result of a change in incentives?

Measuring the extent of common ownership

- Should the MHHI, or any other quantitative indicator, be applied by competition authorities to measure the extent of common ownership?

Competition policy solutions to common ownership issues

- Should competition authorities consider the effects of mergers between investment fund managers on common ownership, even if the affected product markets are distinct from the market for the services they provide (i.e. managing to an index)?
- If hard limits on common ownership were set, would the loss of the benefits of passive investments (e.g. diversification, low management costs) be compensated for by improved competition?

Other policy solutions to common ownership issues

- How can contradictions between policy goals (e.g. competition, corporate governance, financial stability) be addressed?

Endnotes

¹ See, for instance, Reynolds and Snapp (1986), Bresnahan and Salop (1986), Salop and O'Brien, (2000).

² *“The ability to exercise material influence is the lowest level of control that may give rise to a relevant merger situation. When making its assessment, the CMA focuses on the acquirer’s ability materially to influence policy relevant to the behaviour of the target entity in the marketplace. The policy of the target in this context means the management of its business, and thus includes the strategic direction of a company and its ability to define and achieve its commercial objectives. Assessment of material influence requires a case-by-case analysis of the overall relationship between the acquirer and the target. In making its assessment, the CMA will have regard to all the circumstances of the case. A finding of material influence may be based on the acquirer’s ability to influence the target’s policy through exercising votes at shareholders’ meetings, together with, in some cases, any additional supporting factors. However, material influence may also arise as a result of the ability to influence the board of the target, and/or through other arrangements: that is, without the acquirer necessarily being able to block votes at shareholders’ meetings.”* (CMA, 2014, p.20) Mergers: Guidance on the CMA’s jurisdiction and procedure

http://www.fne.gob.cl/wp-content/uploads/2017/04/Guia_Jurisdiccion_CMAUK.pdf

³ A holding of less than 15% might also attract scrutiny where other factors indicating the ability to exercise influence over policy are present. In assessing if there is an acquisition of “material influence”, the following factors are taken into account: (i) the distribution and holders of the remaining shares; (ii) patterns of attendance and voting at recent shareholders’ meetings; (iii) the existence of any special voting or veto rights attached to the shareholding under consideration; (iv) any other special provisions in the constitution of the company conferring an ability to materially influence policy; (v) whether the acquiring entity has or will have board representation; and (vi) whether there are any additional agreements with the company which would enable the holder to influence policy. (OECD, 2008, p.43)

⁴ §7 Clayton Act - 15 U.S. Code § 18 - Acquisition by one corporation of stock of another

⁵ *Ibid.*

⁶ In that case, an acquisition of voting securities shall be exempted from the requirements of the act, if: “(1) made directly by an institutional investor; (2) made in the ordinary course of business; (3) made solely for the purpose of investment; and (4) as a result of the acquisition the acquiring person would hold fifteen percent or less of the outstanding voting securities of the issuer.” 16 Code of Federal Regulations, Section 802.64 - Acquisitions of voting securities by certain institutional investors

⁷ The EU merger regime, for example, that use the “*decisive influence test*” to define the scope of the reviewable transactions, acquisitions of non-controlling minority shareholdings, which usually don’t confer legal or de facto control, fall outside the scope of the applications of the merger rules. The European Commission, however, has, over the past couple of years, increasingly expressed its concerns as to the existence of an enforcement gap in the EU Merger Regulation with respect to non-controlling minority shareholdings that do not affect control, but may nevertheless have negative effects on competition (See Almunia, 2011, EC, 2016). In 2014, the Commission launched a public consultation on the possible extension of the scope of the Merger Regulation to allow to review certain acquisitions of non-controlling minority shareholdings and issued a White Paper that envisaged a review mechanism for cases where such acquisitions would create a “competitively significant link” between the acquirer’s and the targets activities would be covered by the envisaged system. In order to fall within the definition of a “competitively significant link”, the transaction has to fulfil the following two cumulative criteria: (1) acquisitions of a minority

shareholding in a competitor or vertically related company (i.e. there needs to be a competitive relationship between acquirer and target); and (2) the competitive link would be considered significant if the acquired shareholding is (1) around 20% or (2) between 5% and around 20%, but accompanied by additional factors such as rights which give the acquirer a "de-facto" blocking minority, a seat on the board of directors, or access to commercially sensitive information of the target. (EC, 2014, p.13) The Commission considered requiring a self-assessment whether a transaction creates a "competitively significant link" and, if so, the submission of an information notice (EC, 2014, p.13). In 2017, the Commission launched a new phase of the consultation, which is currently ongoing.

⁸ For an overview of the remedies applied in such cases see OECD, 2008.

⁹ *British American Tobacco Co Ltd v Commission of the European Communities* (142 & 156/84) [1987] E.C.R. 4487; [1988] 4 C.M.L.R. 24 at [37]-[40] and [65]. http://eur-lex.europa.eu/resource.html?uri=cellar:9d2bd1a2-c725-4f22-8efc-b6a78f07de85.0002.03/DOC_2&format=PDF It should be noted that the case was decided before the adoption of the Merger Regulation in 1989.

¹⁰ *Ibid.* para.37-40.

¹¹ *Ibid.* para 65.

¹² Other forms of minority interests include interlocking directorships (IDs) or loans to competitors and contracts for differences (CfDs) (EC, 2013,p.6)

Interlocking directorates refer to situations in which one or more companies have one or more members of their respective boards or a top executive in common (see OECD, 2008, p.23).

Contracts for differences are derivatives on other firms' equity or debt value (EC, 2013, p.6)

¹³ As defined by He and Huang (2017), institutional cross-holdings arise when an institution simultaneously holds more than one block in the same industry at a given point in time.

¹⁴ Around the world, financial regulatory authorities require that substantial shareholdings of listed companies (usually above the threshold of 5%) be reported. Threshold reporting regulations have very specific rules concerning what constitutes a "holder" of a share for reporting purposes. Depending on the jurisdiction, the calculation may place the emphasis 1) on control of voting rights attaching to shares (voting power), or 2) the ability of an entity to dispose of the relevant shares (investment power). In the US, for example, any entity that passes a threshold of 5% of any class of stock in a listed company must divulge its stake and control intentions (a) when it crosses the 5% mark or (b) annually for some kinds of investors. Aside from this, any institutional investor holding more than \$100 million in equity assets must disclose the contents of its portfolio each quarter. The Securities Act is expansive in its definition of who counts as an owner, defining a 'beneficial owner' as 'any person who, directly or indirectly, through any contract, arrangement, understanding relationship, or otherwise has or shares: (1) Voting power, which includes the power to vote, or to direct the voting of such security; and/or (2) Investment power, which includes the power to dispose, or to direct the disposition, of such security (Davis, 2008, p.16)

¹⁵ The figure plots the trend in common ownership (He and Huang use the expression "cross ownership" to this phenomenon) by institutional investors from 1980 through 2014. Institutional blockholders of a firm are those that hold at least 5% of the outstanding shares of the firm. A firm is defined to be common-held by an institution in a given quarter when the institution simultaneously block-holds the firm and at least one other firm in the same four-digit SIC industry. The blue line with diamonds shows the fraction of U.S. public firms that are cross-held by institutional investors in any quarter of the fiscal year. The purple line with squares shows the fraction of U.S. public firms that are cross-held by institutional investors in the last quarter of the fiscal year. The green dotted line represents the fraction of all U.S institutional investors that cross-

hold same-industry firms in a given year. The red dashed line shows the fraction of institutional blockholders that common-held same-industry firms in a given year. The unit of observation for the green dotted line and the red dashed line is an institution-year.

¹⁶ Note that the term unilateral effects used in this paper is meant to illustrate the distinction between coordination and the independent action of a firm engaging in (potentially unprofitable) conduct to the benefit of its shareholders with ownership interests in its competitors. It therefore does not focus on the type of unilateral conduct associated with abusive behaviour by a dominant firm.

¹⁷ While this analysis is not based on a comprehensive empirical study, and its validity has been disputed (see, for example, Baker, 2016), it is consistent with the general economic intuition regarding the relationship between market competition and wealth (see, for example, OECD, 2017).

¹⁸ Through the mechanisms described in Section 4.2 below

¹⁹ Several differing approaches have been taken to calculating this value. See, for example, Azar et al, 2016, Annex D.

²⁰ For example, Institutional Shareholder Services found in a 2010 study that on average 43% of minority shareholders attended meetings for European firms. While the rate reported for US shareholders was higher in a separate study, some potential explanations include the ability of brokers to vote shares when their clients do not express a preference. See OECD (2011, pp. 56-57) for further discussion.

²¹ Although Schmalz does not conduct analysis to isolate the specific effects of the campaign failure.

²² See, for example, *U.S. v. Tracinda Inv. Corp.*, 477 F.Supp. 1093, 1098 (C.D. Cal. 1979) (“The ultimate definitive factor the courts have looked to [...] is whether the stock was purchased for the purpose of taking over the active management and control of the acquired company”); *Anaconda Co. v. Crane Co.*, 411 F.Supp. 1210, 1219 (S.D.N.Y. 1975); *U.S. v. Gillette Co.*, 55 Fed. Reg. 28,312 (10 July 1990).

²³ The FTC’s Statement of Basis and Purpose, 43 Fed. Reg. 33450, 33465 (July 31, 1978), identifies six types of conduct which could be considered evidence of an intent inconsistent with the “solely for investment” exemption: (1) nominating a candidate for the board of directors of the issuer; (2) proposing corporate action requiring shareholder approval; (3) soliciting proxies; (4) having a controlling shareholder, director, officer or employee simultaneously serving as an officer or director of the issuer; (5) being a competitor of the issuer; or (6) doing any of the foregoing with respect to any entity directly or indirectly controlling the issuer.

²⁴ See *U.S. v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586, 592 (1957).

²⁵ See *F. & M. Schaefer Corp. v. C. Schmidt & Sons, Inc.*, 597 F.2d 814, 818 (2d Cir. 1979).

²⁶ Accessible at: http://ec.europa.eu/competition/mergers/cases/decisions/m7932_13668_3.pdf.

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Annex: Estimating the effects of common ownership

Two recent empirical studies have found an empirical link between common ownership and higher prices in US retail banking and airline markets, finding in the latter case that common ownership led to price increases of as much as 12%. This section will summarise the theoretical and empirical approaches of both studies, as well as associated critiques.

Azar et al (2016) conducted an econometric analysis of fees for banking deposit services and their relationship with common ownership. Specifically, they examine an increase in average fees in the US and find that greater levels of index fund ownership of banks explain part of this increase, using two approaches, an instrumental variable technique and a difference-in-difference analysis. This analysis builds on insights regarding cross ownership, including the modified Herfindahl-Hirschman index (“MHHI”) developed by O’Brien and Salop, and described in Box 11 below. To develop the model specification, Azar et al test whether their version of the MHHI (the GHHI) was more effective in predicting price changes than the standard HHI - which they found was the case.

Azar et al (2017) also examine the US airline industry, and specifically test the effect of common ownership on prices for specific airline routes. They use 14 years of firm level panel data, and the MHHI delta as a measure of common ownership, finding that airline ticket prices were 3-7% higher as a result of common ownership, compared to the counterfactual of separate ownership or firms ignoring incentives from common ownership. Azar et al conduct a range of tests to evaluate the validity of their model, including tests for reverse causality (i.e. ticket prices causing changes in common ownership). The latter included using difference in difference analysis to examine the effects of a 2007 merger, which found prices were 10-12% higher due to common ownership. In addition, they tested the impact of assumptions regarding proportional investor control (e.g. assuming only shareholders with greater than 0.5% exercise influence, only the largest 10, etc.) and Bertrand (as opposed to Cournot) competition.

Box 11. The development of the modified Herfindahl-Hirschman index

Bresnahan and Salop (1986) derived a modified Herfindahl-Hirschman index (“MHHI”) to take into account the effect of joint ventures on competition incentives in a market that operates based on Cournot competition. Specifically, they considered joint ventures undertaken by competing firms. They derived formulae for the modified index based on several scenarios of control, including a silent financial interest, control by one parent, full ownership by one parent (a merger), and limited joint control.

Building on this work, O’Brien and Salop (2000) applied the MHHI framework to measure the impact on competition incentives of cross ownership within an industry generally. They set out formulae for the change in the MHHI (the “delta”), which depends on the market shares of the acquired and acquiring firm as well as the percent ownership interest of the acquired firm that is being considered. Similar to Bresnahan and Salop, O’Brien and Salop consider a range of transactions; namely:

- **a full merger** between two competing firms (in which case the delta is the same as the standard HHI delta)
- **a silent financial interest** in which the joint venture would make decisions purely in its own interest, without considering the impact on the parent firm, but where the parent firms would take unilateral action that reflected their ownership interests in the joint venture.
- **total control** in which the acquired firm would seek to maximise the controlling parent’s profits)
- **one-way control** “where the acquiring firm influences the management of the acquired firm to maximize joint profits but acts independently with respect to its own pricing decision”(pp. 613-614)
- **Coasian joint control** where the acquiring firm managers seek to maximize the joint profits of the acquired and acquiring firms
- **Proportional control** where shareholder firm profits are taken into account according to the proportion of their ownership interests (which forms the basis of the models described above)

With the use of a hypothetical example, O’Brien and Salop show that the MHHI delta would be highest in the total control scenario due to a “free-rider problem” akin to the unilateral effects described above (where the “acquiring firm gains a benefit from the acquired firm charging a higher price but only pays a share of the price. A higher price for the acquired firm leads to more sales for the acquiring firm” (p. 578)).

Logically, the size of this free rider problem will depend on the market share of the respective firms; for example, if the acquiring firm had a relatively small market share and the product market were homogenous, it would “capture” relatively few of the acquired firm’s lost customers following its price increase. When control and financial interest are not fully aligned, the differential between the two will also determine the magnitude of the free-rider problem. For example, an acquiring firm with a high level of control but a relatively low level of financial interest may be incentivised to divert as many customers from the acquired firm as possible. That is, the acquiring firm will experience a relatively lower “cost” from the price increase by the acquired firm.

At the other extreme, the silent financial interest results in the lowers MHHI delta.

O’Brien and Salop’s model assumes no collusion (either express or tacit), focusing solely on unilateral effects.

Critiques

The reliability of results from both studies has been contested by some authors. For example, O'Brien and Waehrer doubt whether the MHHI can accurately reflect how common ownership affects prices (since potential endogeneity problems in the regression may stem from the existence of other variables that affect price and MHHI).

Other concerns regarding causality (i.e. whether concentration, as opposed to common ownership, caused the price increases), model specification, market definition, robustness and, more fundamentally, the applicability of the O'Brien and Salop cross ownership paper to the issue of common ownership, were also expressed (see, in particular, Rock and Rubinfeld, 2017; Kennedy et al, 2017; O'Brien and Waehrer, 2017).

In addition, Azar et al employ a proportionate control assumption (described in Section 2 above), which is critiqued by O'Brien and Waehrer for being unsupported, and for ignoring the potential impact of minority investors that could band together to defeat institutional investor influence. When an institutional investor does not play an active role in firm management, a silent financial interest assumption may be more appropriate, which would imply a relatively small MHHI delta.

Kennedy et al (2017) conduct their own analysis of common ownership in the US airline industry using a similar dataset. Their regression uses a "common ownership incentive term" rather than the MHHI to examine the impact of common ownership, given concerns about the applicability of the MHHI to common ownership (2017, p.9). They find that there is no impact on price from common ownership.