Varieties and Mechanisms of Common Ownership: A Calibration Exercise for Competition Policy

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I. Introduction

Minority shareholdings have been on the regulatory agenda of competition authorities for some time. Recent empirical studies, however, draw attention to a new, thought provoking theory of harm: common ownership by institutional investors holding small, parallel equity positions in several competing firms within concentrated industries. Proponents of the "common ownership thesis" suggest that the indirect structural links between industrial competitors due to

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overlapping institutional shareholders in their ownership structure may increase "effective" concentration in oligopolistic product markets and reduce unilateral incentives to compete, thus leading to higher prices and restricted output.[1] Common owners are to benefit from such effects whereas consumers and workers typically lose.[2] Further empirical studies link common ownership with effects on entry and potential competition,[3] M&A activity,[4] investment[5] and innovation.[6] Theoretical and empirical scholarship suggests multiple channels or mechanisms by which common horizontal shareholders may influence firm behavior.[7]

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[1] José Azar, Martin C Schmalz and Isabel Tecu, 'Anticompetitive Effects of Common Ownership' (2018) 73 The Journal of Finance 1513; José Azar, Sahil Raina and Martin C Schmalz, 'Ultimate Ownership and Bank Competition' (2019) Working paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710252>.

[2] José Azar and Xavier Vives, 'General Equilibrium Oligopoly and Ownership Structure' (2021) 89 Econometrica 999; Zohar Goshen and Doron Levit, 'Common Ownership and the Decline of the American Worker' [2021] ECGI Law Working Paper 584/2021. Azar and Vives further illustrate that while increases in intra-industry common ownership lead to higher prices, inter-industry common ownership increases are associated with lower prices in a general equilibrium oligopoly theory model. For empirical support of their theoretical argument, see José Azar and Xavier Vives, 'Revisiting the Anticompetitive Effects of Common Ownership' [2021] Working Paper <https://papers.ssrn.com/abstract=3805047>. When the latter effect dominates, common ownership does not necessarily harm consumers yet the adverse effect on workers persists.

[3] Jin Xie and Joseph Gerakos, 'Institutional Cross-Holdings and Generic Entry in the Pharmaceutical Industry' (2020) 110 AEA Papers and Proceedings 569; Melissa Newham, Jo Seldeslachts and Albert Banal-Estanol, 'Common Ownership and Market Entry: Evidence from Pharmaceutical Industry' (2018) DIW Berlin Discussion Paper 1738; Alexandro Ruiz-Pérez, 'Market Structure and Common Ownership' <https://www.cemfi.es/~ruiz-perez/alexandro_ruiz_perez_JMP_nov2019.pdf>.

[4] Chris Brooks, Zhong Chen and Yeqin Zeng, 'Institutional Cross-Ownership and Corporate Strategy: The Case of Mergers and Acquisitions' (2017) 48(C) Journal of Corporate Finance 187; Miguel Anton and others, 'Acquisitions, Common Ownership, and the Cournot Merger Paradox' [2018] Working Paper <https://papers.ssrn.com/abstract=3226390>; Mohammad (Vahid) Irani, Wenhao Yang and Feng Zhang, 'Common Ownership and Competition in Mergers and Acquisitions' [2019] Working Paper <https://papers.ssrn.com/abstract=3461284>.

[5] Germán Gutiérrez and Thomas Philippon, 'Investmentless Growth: An Empirical Investigation' [2017] Brookings Papers on Economic Activity 89; Oz Shy and Rune Stenbacka, 'An OLG Model of Common Ownership: Effects on Consumption and Investments' (2019) 62 Journal of Macroeconomics 103155; Yangyang Chen and others, 'Corporate Financing of Investment Opportunities in a World of Institutional Cross-Ownership' [2020] Working Paper <https://papers.ssrn.com/abstract=3183581>.

[6] Ángel L López and Xavier Vives, 'Overlapping Ownership, R&D Spillovers, and Antitrust Policy' (2019) 127 Journal of Political Economy 2394; Miguel Anton and others, 'Innovation: The Bright Side of Common Ownership?' [2018] IESE Working Paper <https://papers.ssrn.com/abstract=3099578>; Jie (Jack) He and Jiekun Huang, 'Product Market Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings' (2017) 30 The Review of Financial Studies 2674; Philippe Aghion, John Van Reenen and Luigi Zingales, 'Innovation and Institutional Ownership' (2013) 103 American Economic Review 277; Paul Borochin, Jie Yang and Rongrong Zhang, 'The Effect of Institutional Ownership Types on Innovation and Competition' [2018] Working Paper <https://papers.ssrn.com/abstract=3204767>; Bin Qiu, 'Two Essays on Corporate Innovation' (PhD Dissertation, University of Hawaii 2017); Leonard Kostovetsky and Alberto Manconi, 'Common Institutional Ownership and Diffusion of Innovation' [2020] Working Paper <https://papers.ssrn.com/abstract=2896372>; Ofer Eldar, Jillian Grennan and Katherine Waldock, 'Common Ownership and Startup Growth' [2020] Duke Law School Public Law & Legal Theory Series No. 2019-42; Xuelin Li, Tong Liu and Lucian A Taylor, 'Common Ownership and Innovation Efficiency' [2021] Jacobs Levy Equity Management Center for Quantitative Financial Research Paper.

[7] Einer Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (2021) 82 Ohio State Law Journal 1; José Azar, 'Portfolio Diversification, Market Power, and the Theory of the Firm' (2016) Working Paper <http://papers.ssrn.com/abstract=2811221>; Miguel Antón and others, 'Common Ownership, Competition, and Top Management Incentives' [2017] ECGI Working Paper in Finance N° 511/2017.

On this account, the common ownership thesis is fascinating for a number of reasons. First, the overall effects on competition and welfare are mixed and may point to different directions under different assumptions and circumstances.[8] For example, common ownership may vary in level and effect across different industries.[9] Second, common ownership of several horizontal competitors within the same relevant market is notably not associated with the kind of efficiencies that are relevant under antitrust law.[10] From a competition analytical point of view, these features (reduced industry output, no integrative efficiencies) are more typical of cartels and cooperation activities between separately owned firms rather than mergers and other corporate structural changes.[11]

At the same time, the "common ownership hypothesis" has been vigorously contested and much controversial among academic circles.[12] On the one hand, the debate over the

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[8] Xavier Vives, 'Common Ownership, Market Power, and Innovation' (2020) 70 International Journal of Industrial Organization; Alexandra J Gibbon and Jan Philip Schain, 'Rising Markups, Common Ownership, and Technological Capacities' [2020] DICE Discussion Paper, No. 340; Oz Shy and Rune Stenbacka, 'Common Ownership, Institutional Investors, and Welfare' (2020) 29 Journal of Economics & Management Strategy 706. On common ownership in a vertical context, see Spencer D Smith, 'Note: Vertical Shareholding' (2019) 133 Harvard Law Review 665; Ioannis Lianos and others, 'Financialisation of the Food Value Chain, Common Ownership and Competition Law' (2019) 16 European Competition Journal 149. On "inter-market spillovers" created by common ownership, see also Alessandro Romano, 'Horizontal Shareholding and Network Theory' (2021) 38 Yale Journal on Regulation 363.

[9] Mohammad Torshizi and Jennifer Clapp, 'Price Effects of Common Ownership in the Seed Sector' (2019); Matthew Backus, Christopher Conlon and Michael Sinkinson, 'Common Ownership and Competition in the Ready-to-Eat Cereal Industry' [2021] NBER Working Paper 28350 <http://www.nber.org/papers/w28350>.

[10] José Azar and Anna Tzanaki, 'Common Ownership and Merger Control Enforcement' in Ioannis Kokkoris (ed), *Research Handbook in Competition Enforcement* (Edward Elgar Publishing, forthcoming) 37–38; Einer Elhauge, 'Horizontal Shareholding' (2016) 129 Harvard Law Review 1267, 1303–1304; Jonathan B Baker, 'Overlapping Financial Investor Ownership, Market Power, and Antitrust Enforcement: My Qualified Agreement with Professor Elhauge' (2016) 129 Harvard Law Review Forum 212, 227–231.

[11] Robert H Bork, 'The Rule of Reason and the Per Se Concept: Price Fixing and Market Division' (1966) 75 Yale Law Journal 373, 383–384.

[12] Matthew Backus, Christopher Conlon and Michael Sinkinson, 'The Common Ownership Hypothesis: Theory and Evidence' [2019] Brookings Economic Studies Report; Edward B Rock and Daniel L Rubinfeld, 'Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance' [2017] NYU Law and Economics Research Paper No. 17-05; Edward B Rock and Daniel L Rubinfeld, 'Antitrust for Institutional Investors' [2017] NYU Law and Economics Research Paper No. 17-23; Thomas A Lambert and Michael E Sykuta, 'The Case for Doing Nothing About Institutional Investors' Common Ownership of Small Stakes in Competing Firms' [2018] University of Missouri School of Law Legal Studies Research Paper No. 2018-21; Pauline Kennedy and others, 'The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence' [2017] Working Paper; Daniel P O'Brien and Keith Waehrer, 'The Competitive Effects of Common Ownership: We Know Less Than We Think' (2017) 81(3) Antitrust Law Journal 729; Menesh Patel, 'Common Ownership, Institutional Investors, and Antitrust' (2018) 82(1) Antitrust Law Journal 279; Douglas H Ginsburg and Keith Klovers, 'Common Sense About Common Ownership' [2018] Concurrences Review N° 2-2018, Art. N° 86847 <https://papers.ssrn.com/abstract=3169847>; Patrick J Dennis, Kristopher Gerardi and Carola Schenone, 'Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry' (2019) FRB Atlanta Working Paper No. 2019-15 <https://papers.ssrn.com/abstract=3423505>; Jacob Gramlich and Serafin Grundl, 'Testing for Competitive Effects of Common Ownership' (2017) 2017 Finance and Economics Discussion Series 2017-029. Washington: Board of Governors of the Federal Reserve System <http://www.federalreserve.gov/econres/feds/files/2017029pap.pdf>; C Scott Hemphill and Marcel Kahan, 'The Strategies of Anticompetitive Common Ownership' (2020) 129 Yale Law Journal 1392; Erik P Gilje, Todd A

significance and likelihood of competitive effects stemming from common ownership is based on continuing empirical research[13] or relating to the choice of specific methodological approaches and economic modeling assumptions.[14] On the other hand, critics raise a range of skeptical arguments as regards the causal mechanisms underlying common ownership, and in particular the channels of influence of common shareholders, questioning the theoretical plausibility of any alleged unilateral effects.

For instance, they point out: i) that horizontal shareholdings that make up of institutional common ownership are small in size and "passive" in nature and as such unlikely to create harm or to be captured by antitrust laws;[15] ii) that the precise way and extent to which "partial" common ownership translates into control over corporate management are not well established under economic theory, or likely to be constrained by corporate law principles (fiduciary duties);[16] iii) that the particular "proportional control" assumption used in empirical literature to estimate competition effects of common minority shareholding is either not supported by theory or to be judged on the facts;[17] iv) that "consensus mechanisms" that point to potential anticompetitive effects of common ownership that benefit both common and non-common shareholders theoretically only relate to collusion and thus are empirically untested as existing economic evidence show unilateral effects using a "conflict-based" measure – the MHHI.[18] As

Gormley and Doron Levit, 'Who's Paying Attention? Measuring Common Ownership and Its Impact on Managerial Incentives' (2020) 137 Journal of Financial Economics 152; Alec J Burnside and Adam Kidane, 'Common Ownership: An EU Perspective' (2021) 8 Journal of Antitrust Enforcement 456.

[13] Martin C Schmalz, 'Recent Studies on Common Ownership, Firm Behavior, and Market Outcomes' (2021) 66 (1) Antitrust Bulletin.

[14] Lianos and others (n 8) 17.

[15] Rock and Rubinfeld, 'Antitrust for Institutional Investors' (n 12); cf Hemphill and Kahan (n 12). See sections II.B and III below.

[16] O'Brien and Waehrer (n 12) 759–761, 765–766 suggesting that it is an open question what is the appropriate "control weight" to be attached to each shareholder in a firm's objective function under partial ownership in oligopoly when shareholders have divergent interests. In contrast, under separate ownership (independent rival firms) or full common ownership (merger), shareholder preferences and how these feed into firms' and managers' objective functions are well established. See also Matthew Backus, Christopher Conlon and Michael Sinkinson, 'Common Ownership in America: 1980-2017' American Economic Journal: Microeconomics, forthcoming 8 ("[a]ny formulation of ['control weight'] is implicitly a model of corporate governance, and one where [economic] theory offers precious little guidance.").

[17] O'Brien and Waehrer (n 12) 760–761; Burnside and Kidane (n 12) 458, 476.

[18] Hemphill and Kahan (n 12) 1401–1409.

such, critics challenge the modi operandi – "internalization" and "transmission" mechanisms[19] – via which the unilateral theory of harm linked to common ownership is likely to manifest.[20]

Notwithstanding the inconclusive stage of the academic debate, antitrust enforcement agencies have been attentive to the emerging common ownership literature, gathering evidence and assessing the potential extent, effects, and policy implications of the rise of common ownership.[21] The U.S. antitrust agencies have proposed amending their merger control reporting thresholds to account for aggregate institutional holdings.[22] The European Commission on the other hand has already made use of the common ownership theory in its merger enforcement practice suggesting that the economic literature on cross-shareholdings applies to common shareholdings.[23] Germany has applauded the EU's ancillary review of common ownership during merger control scrutiny of M&A transactions between companies active in markets with high market concentration and high level of common ownership. They have underscored the potential antitrust risk from common ownership but cautioned that other competition law or regulatory measures may be premature at this state of awareness.[24]

Most empirical common ownership literature to date originates in the U.S. where portfolio diversification and passive investing via index funds are widespread practices, and the percentage of equity of publicly listed firms with dispersed ownership held by large institutional investors is high.[25] Until recently there was hardly any empirical evidence on

[19] These mechanisms refer to the internalization of common shareholders' incentives to compete less aggressively due to their diversified, parallel holdings in rival firms in oligopolistic markets, and their transmission to firm managers via the operation of corporate governance and exercise of control. In economic parlance, the two mechanisms correspond to the "profit weights" and "control weights", which are the constituent elements of common shareholdings in horizontal rivals. See further sections III.A and B below.

[20] This paper focuses on the unilateral effects of common ownership, on which theoretical and empirical literature is more developed. For discussion of the likely coordinated effects of minority shareholdings and common ownership, see Anna Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings: A Law & Economics Analysis' (Doctoral Thesis, UCL (University College London) 2017); Edward B Rock and Daniel L Rubinfeld, 'Common Ownership and Coordinated Effects' [2018] NYU Law and Economics Research Paper No. 18-40; Patel (n 12); Lysle Boller and Fiona Scott Morton, 'Testing the Theory of Common Stock Ownership' [2019] NBER Working Paper No. w27515.

[21] Germany's Monopolkommission, 'Biennial Report XXII: Competition 2018' (3 July 2018), Chapter II; Note by the United Kingdom, 'OECD Roundtable on Common Ownership by Institutional Investors and Its Impact on Competition' (2017) DAF/COMP/WD(2017)92 9–12; 'U.S. FTC Hearings on Competition and Consumer Protection in the 21st Century, Panel #8: Common Ownership' (*Federal Trade Commission*, 6 December 2018).

[22] Federal Trade Commission, Notice of Proposed Rulemaking, Federal Register Vol. 85, No. 231 (Tuesday, December 1, 2020): Proposed Rules, 77053-77093. See further section II.B below.

[23] Case M.7932 *Dow/DuPont*, Commission decision of 27 March 2017, Annex 5, paras 45 and 56; Case M.8084 *Bayer/Monsanto*, Commission decision of 21 March 2018, para 223.

[24] Monopolkommission (n 21), Chapter II, 40.

[25] Jan Fichtner, Eelke M Heemskerk and Javier Garcia-Bernardo, 'Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk' (2017) 19 Business and Politics 298; John C Coates, 'The Future of Corporate Governance Part I: The Problem of Twelve' [2018] Harvard Public Law Working Paper No. 19-07; Lucian A Bebchuk and Scott Hirst, 'The Specter of the Giant Three' (2019) 99 Boston

common ownership in Europe, but current accounts suggest that it is on the rise here too.[26] These studies reverse the pre-existing view that institutional common ownership is a concern limited to the U.S.[27] However, there is a twist. The levels of common ownership in certain European industry sectors are high and the same large U.S. institutional investors ("Big Three") that dominate U.S. companies are also present in Europe.[28] But patterns differ across European countries depending on the structure of capital markets and specific industries and the remaining ownership and governance structure of rival firms in each commonly held industry.[29] That is, institutional investor and product market concentration as well as the relative concentration and distribution of common versus non-common shareholders in firm governance and the legal model of corporate governance in each jurisdiction (shareholder primacy or stakeholder model) matter for common ownership to be likely to arise or produce harmful effects on competition. It follows that the empirical significance of common ownership may be country and context dependent.

Thus, the key difference between common ownership in the U.S. and the EU is not its scope as such but the extent to which it may impact product market competition considering further enabling surrounding conditions (e.g., dispersed corporate ownership,[30] concentrated market structure[31]) necessary for the novel theory of harm to manifest.[32] For instance, in many EU jurisdictions the presence of "local" blockholders, be they national governments or powerful private investors, may in fact counteract the potential antitrust threat of institutional common owners.[33] At the same time, EU merger laws may be more conservative and constrained in capturing any harmful instances of common ownership.[34] In the abstract, this economic and

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University Law Review 721; Adriana De La Cruz, Alejandra Medina and Yung Tang, 'Owners of the World's Listed Companies' [2019] OECD Capital Market Series <http://www.oecd.org/corporate/owners-of-the-worlds-listed-companies.htm>.

[26] Nicoletta Rosati and others, 'Common Shareholding in Europe' (Publications Office of the European Union 2020) EUR - Scientific and Technical Research Reports (JRC121476) 5–6: "67% of all listed firms active in the EU are cross-held by common shareholders holding at least 5% in each company [in 2016]. These results for Europe are in line with those for the US: about 60% of US public firms in 2014 had common shareholders that held at least 5% both in the firm itself and in a competitor. This occurred in only 10% of cases back in 1980."

[27] Burnside and Kidane (n 12).

[28] Simona Frazzani and others, 'Barriers to Competition through Joint Ownership by Institutional Investors' (2020) Study for the Committee on Economic and Monetary Affairs, European Parliament, Luxembourg 12.

[29] ibid; Albert Banal-Estañol, Nuria Boot and Jo Seldeslachts, 'Common Ownership Patterns in European Banks: Pre- vs Post- Great Financial Crisis' [2021] Journal of Competition Law and Economics, forthcoming.

[30] Burnside and Kidane (n 12) 462–465.

[31] OECD, 'Market Concentration - Issues Paper by the Secretariat' [2018] DAF/COMP/WD(2018)46.

[32] Frazzani and others (n 28) 12–13.

[33] ibid 27.

[34] See section II.B below. There is limited authority in EU competition law pursuant to which "non-controlling" minority shareholdings that are not captured by the EU Merger Regulation ("EUMR") can be addressed under EU antitrust rules (i.e., Articles 101 and 102 TFEU). See Joined Cases 142 and 156/84, BAT and Reynolds v.

legal reality does not allow straight conclusions as to whether common ownership is or may be a European problem too. A number of complicating factors affect the answer to this question. First, commonly owned U.S.-based corporations often hold firms active in the EU, adding to the direct participation and potential influence of major common shareholders in EU-based companies.[35] Second, the legal analysis is complicated by the fact that although common ownership patterns across EU companies and contexts may diverge, transactions between commonly held U.S. companies, which require merger notification in Europe, "may invite examination for possible relevance of common ownership".[36] Third, considering the analytical insights offered in this article, it is possible that the broader phenomenon of common ownership may take different shape and rely on different mechanisms as evidenced in certain European countries ("concentrated" common ownership) when compared to the U.S. ("diffuse" common ownership).[37]

What is also notable about the recent literature on common ownership and the corresponding novel theory of competition harm is that it is singularly linked to the rise of index funds and the Big Three asset managers as the typical common owners. This limited focus on common ownership in the narrow sense – due to the empirical prominence of this type of investors in the U.S. especially – obscures the fact that it is subset of a broader phenomenon.[38] Indirect partial ownership of industrial competitors by common shareholders-investors that are not active in the same relevant market may take many forms. [39] In principle, common ownership is neither limited to certain institutional investors or to public firms with a dispersed shareholder base as is typically the case in most U.S. listed companies. Common owners of public firms may also be individuals or other types of institutional investors such as hedge funds with more concentrated holdings in several rivals in an industry. Common ownership

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Commission [1987] ECR 4487; Cases IV/33.440, Warner-Lambert/Gilette and IV/33.486, BIC/Gillette [1993] OJ L 116/21. However, this case law predates the adoption of the EUMR and has effectively become dead letter following its implementation in 1990. See further on this Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20).

[35] Rosati and others (n 26) 7.

[36] Burnside and Kidane (n 12) 465 (referring to the *Dow/DuPont* and *Bayer/Monsanto* merger cases as examples).

[37] See section II.A below.

[38] Anna Tzanaki, 'The Common Ownership Boom - Or: How I Learned to Start Worrying and Love Antitrust' (2019) "Common Ownership Revisited" CPI Antitrust Chronicle May 2019 3: "[common ownership by institutional financial investors] is a special case of the more general scenario of common owners (any overlapping shareholders) of competitors."

[39] Partial ownership includes both "[r]ivals' partial ownership stakes in each other [cross-ownership], and private equity and institutional investors that acquire stakes in multiple rivals competing in the same product markets [common ownership], [that] can also weaken competitive incentives." See Diana L Moss, 'What Does Expanding Horizontal Control Mean for Antitrust Enforcement? A Look at Mergers, Partial Ownership, and Joint Ventures' [2020] American Antitrust Institute (AAI), Working Paper 1.

may also exist in private firms when venture capital, private equity funds or alternative institutional investors seek to diversify their portfolio of investments in entrepreneurial firms that may be actual or potential competitors with each other.[40] To be sure, the type of investor and firm setting is material not only for the assessment of common ownership as an empirical phenomenon but also as a matter of theory. Different forms of common ownership may be associated with different theoretical mechanisms or channels of influence and distinct factual settings under which competition concerns may be likely and substantial. In this sense, scholarly discussion on common ownership has been undisciplined, narrowly focused, and often thwart by communication gaps and misconceptions.

Against this backdrop, the present article offers a unifying framework to organize and provide the right focus to the analysis of common ownership in the narrow and broad sense from an antitrust perspective. By putting forward a novel distinction between two paradigmatic types of common ownership, the "concentrated" and the diffuse", the article illustrates that each variety of common ownership is conceptually associated with different unilateral theories of harm and economic mechanisms potentially giving rise to anticompetitive effects.[41] Accordingly, it is shown that variety I of common ownership is conceptually linked to economic mechanisms of "*active influence*" (corporate influence) and *legal* conceptions of control in competition and corporate law (majority control). In contrast, variety II may obtain in the presence of "*passive influence*" mechanisms, based on *economic* conceptions of control or influence under industrial organization theory on one hand (strategic influence) and *de facto* minority control in the governance of the commonly owned firms on the other (actual control).

As explained, the contemporary debate on the competitive effects arising from parallel minority shareholdings in rivals by common institutional investors falls within the paradigm of "diffuse" common ownership. In other words, the distinct driver of the potential anticompetitive effects of diffuse common ownership is *diversification* and not investor concentration as such, as is the case in instances of concentrated common ownership. Taking the case of a complete acquisition as a baseline for comparison, I define and visually present

[40] Ofer Eldar and Jillian Grennan, 'Common Ownership and Entrepreneurship' [2021] Duke Law School Public Law & Legal Theory Series No. 2021-25; Steven Van Uytsel, 'Horizontal Shareholding Among Fintech Firms in Asia: A Preliminary Competition Law Assessment' in Mark Fenwick, Steven Van Uytsel and Bi Ying (eds), *Regulating FinTech in Asia: Global Context, Local Perspectives* (Springer 2020); Laura A Wilkinson and Jeff L White, 'Private Equity: Antitrust Concerns with Partial Acquisitions' (2007) 21 Antitrust 28; Anat Alon-Beck, 'Alternative Venture Capital: The New Unicorn Investors' [2020] Case Legal Studies Research Paper No. 2020-26 <https://papers.ssrn.com/abstract=3361780>.

[41] See sections III.A and B below.

the distinctive characteristics of the two varieties of common ownership as well as the circumstances and assumptions under which each is plausible to emerge. I illustrate that while variety I neatly fits within existing paradigms of competition and corporate laws ("controlling" partial acquisitions), variety II is a new phenomenon squarely pushing their boundaries ("non-controlling" partial acquisitions).[42]

The above conceptual distinction also provides analytical support to a broader "effects-based" theory of *competitive influence* that is flexible yet delimited enough to capture a range of plausible unilateral effects flowing from structural changes in the ownership and governance structure of firms, which may affect their performance and also have implications for the structure and performance of product markets.[43] That is, unilateral competitive effects may arise either due to a formal change of control (concentrated common ownership) or an informal change in incentives (diffuse common ownership). Indeed, U.S. case law has explicitly recognized that anticompetitive effects of partial ownership may be brought about by many means or mechanisms and control over the partially acquired business is unnecessary for an antitrust violation under Clayton Act §7, the U.S. merger statute. This is so because the key focus of the merger inquiry is on the "effect on competition" regardless of its cause.[44]

In this light, diffuse common ownership creates a unique challenge for competition law: it may theoretically lead to harmful effects on competition yet via unconventional means. In essence, both mechanisms supporting diffuse common ownership are *informal*: one is based on pure incentives, i.e., passivity under antitrust law (absence of active influence) and the other on partial minority control, i.e., factual control under corporate law (absence of large, active

[42] See section II.B below.

[43] According to Moss (n 39), there are "many mechanisms for expanding horizontal ownership and control of economic resources" that implicate merger policy and enforcement such as horizontal mergers, joint ventures and "acquisitions of partial ownership stakes", including common ownership. The U.S. Horizontal Merger Guidelines (2010) address all three scenarios of effecting structural change but note that partial acquisitions "may require a somewhat distinct analysis from that applied to full mergers or to acquisitions involving effective control."

[44] United States v. Dairy Farmers of America, Inc., 426 F.3d 850, 859–862 (6th Cir. 2005): "We, however, do not agree with the district court's conclusion that a lack of *control or influence* precludes a Section 7 violation. [...]even without control or influence, an acquisition may still lessen competition. [referring also to the *du Pont*, and *Denver and Rio Grande* cases] The key inquiry is the effect on competition, regardless of the cause. [...] For example, in *du Pont*, the Supreme Court found that even though du Pont did not have control or influence over General Motors because it no longer had voting rights, anticompetitive effects could still occur, because a *group with similar interests* as du Pont — its shareholders — held the *voting rights*. Likewise, in this case, DFA purportedly cured any potential antitrust problems in the agreement with Southern Belle by giving all of its voting rights to AFLP. This cure, however, ignores the fact that AFLP and DFA *have closely aligned interests to maximize profits* via anticompetitive behavior."

investors).[45] What is more, a second distinguishing characteristic of diffuse common ownership is that its competitive effects arise on a *cumulative* basis: it is not individual minority shareholding participations in rival firms but rather their combination and aggregate effect due to the diffusion of common ownership across multiple competitors in an industry at the same time that may be problematic.

The theory of diffuse common ownership exposes an enforcement gap in competition law and a tension between "substance" and "formalism" that still today permeates antitrust doctrine in different and subtle ways.[46] The effects of diffuse common ownership go beyond a single business entity or investor and fall short of established legal conceptions of control. As such, the identified gap is partly due to legal and partly due to economic formalism[47] as they both shape rules and theoretical constructs relating to the boundaries of the firm. For one, legal concepts fundamental to the analysis of mergers and cartels such as inter-firm "control" may occasionally be under- or overinclusive in capturing effects of partial ownership, or realistically assessing whether legally separate firms are independent market actors or comprise a single entity of affiliated companies.[48] As illustrated in this article, fixation on control may be inapposite and distracting from undertaking a proper competitive assessment in cases of diffuse common ownership. As a result, rival firms that are formally separate entities as a matter of corporate form and are not part of the same business group based on majority corporate control ("single economic entity" doctrine) may still be interrelated due to structural links such as

[45] Commenting on the U.S. *Dairy Farmers* case, scholars have criticized the unilateral effects theory of harm based solely on competitive incentives and a diversion (cost-benefit) analysis as too open-ended, over-inclusive and not accounting for complicating real-world factors. Still, they accept "a more limited application of the theory in cases where *some* control is evident." See Brendan J Reed, 'Private Equity Partial Acquisitions: Towards a New Antitrust Paradigm' (2010) 5 Virginia Law and Business Review 303, 325. The theory of diffuse common ownership portrayed here clearly fulfils this additional delimitation criterion.

[46] Barak Orbach, 'The Durability of Formalism in Antitrust' (2015) 100(5) Iowa Law Review 2197, 2206 ("Competition-law rules that downplay competitive effects appear to run afoul of the goals of antitrust and, as such, antitrust formalism is counterintuitive [...] reliance on the legal form may distort antitrust analysis.").

[47] ibid 2209–2210 ("antitrust formalism combines both legal and economic formalism and both suffer from similar vulnerabilities."). See also David F Shores, 'Economic Formalism in Antitrust Decisionmaking' (2004) 68 Albany Law Review 1053.

[48] Orbach (n 46) 2206–2207. Orbach explains how the U.S. Supreme Court "replaced one formalistic rule [the "intraenterprise conspiracy doctrine" finding that firms "affiliated or integrated under common ownership" were capable of conspiring in violation of section 1] for another, holding that a firm and its wholly owned subsidiaries constitute a single entity for antitrust purposes (creating the so-called "Copperweld immunity" [or "single economic entity" doctrine in the EU])". Yet, "the Copperweld standard did not provide lower courts with guidance for common business relationships, such as those among sister companies, between agent and a principal, and in situations of partial ownership."

common minority shareholdings, debt holdings or interlocking directorates that could potentially influence their conduct even if these links do not give rise to a merger. [49]

Diffuse common ownership sharply showcases the potential breakdown of fundamental economic assumptions such as firm independence and own profit maximization as a universal objective of the firm. Under common ownership in oligopoly, "atomistic" firms and shareholders cannot be assumed,[50] which in turn leads to theories about an altered objective function of the firm (portfolio value maximization) and unilateral competitive effects (across-firm internalization of profits).[51] Once externalities between formally separate firms enter the firm objective function the "black box" view of the firm collapses with significant implications for antitrust analysis.[52] Market concentration and market control reflecting firm interactions given diffuse common shareholdings are no longer clearly a function of the nominal number of firms active in the market.[53] These insights further point to the need for affording flexibility to the interpretation of the law and infusing realism to the application of economic analysis while devising creative solutions for effectively addressing this new phenomenon to the extent it is considered to be an empirically significant problem.

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[49] Federico Cesare Guido Ghezzi and Chiara Picciau, 'The Curious Case of Italian Interlocking Directorates' [2020] Bocconi Legal Studies Research Paper No. 3661733 4 (referring to "common majority shareholding" in horizontal competitors controlled by the same parent company, [which] would give rise to "a corporate group"); On the "single economic entity" doctrine that provides antitrust immunity to anticompetitive agreements between companies within the same corporate group, and in the EU it also imposes intragroup liability on parent companies for any antitrust violations of their subsidiaries based on 'control' (which is presumed for almost wholly-owned or controlled subsidiaries), see Nada Ina Pauer, *The Single Economic Entity Doctrine and Corporate Group Responsibility in European Antitrust Law* (Kluwer Law International 2014); Carsten Koenig, 'An Economic Analysis of the Single Economic Entity Doctrine in EU Competition Law' (2017) 13 Journal of Competition Law & Economics 281. See also the recent Case C-595/18 P, The Goldman Sachs Group Inc. v European Commission, ECLI:EU:C:2021:73 (extending the "decisive influence" presumption for imputing parental liability to private equity firms holding only a minority stake but all the voting rights in non-wholly owned portfolio companies). On the broader interaction between competition law and corporate governance drawing the external and internal boundaries of the firm and their continuing evolution given modern and ever complex organizational forms such as structural links, see Florence Thépot, *The Interaction Between Competition Law and Corporate Governance - Opening the 'Black Box'* (Cambridge University Press 2019).

[50] Romano (n 8) 394 ("Economists used to have an atomistic view of the world, with firms and markets considered as 'isolated atoms.' This conceptualization might have been an adequate heuristic in a pre-institutional-investors world, but it misrepresents the modern U.S. economy."); De La Cruz, Medina and Tang (n 25) 18 ("no jurisdiction systemically features the kind of atomistic dispersed ownership structure that still influences much of the corporate governance debate."); cf Randall Morck (ed), *Concentrated Corporate Ownership* (University of Chicago Press 2000) 1.

[51] José Azar, 'The Common Ownership Trilemma' (2020) 87 The University of Chicago Law Review 263; Martin C Schmalz, 'Common-Ownership Concentration and Corporate Conduct' (2018) 10 Annual Review of Financial Economics 413.

[52] On "the hazards of a black-box view of the firm", see Bengt R Holmstrom and Jean Tirole, 'The Theory of the Firm' in Richard Schmalensee and Robert D Willig (eds), *Handbook of Industrial Organization*, vol 1 (Elsevier 1989) 104–105.

[53] Azar and Vives, 'General Equilibrium Oligopoly and Ownership Structure' (n 2); Azar and Tzanaki (n 10).

This article is organized in five sections. Part II below defines the two varieties of common ownership, the "concentrated" and the "diffuse", presented through the lens of merger control. Then it explores the purpose and limits of merger control, illustrating gaps in the law of various jurisdictions regarding partial minority acquisitions, particularly involving "diffuse" common shareholdings. Part III discusses the economic mechanisms associated with each variety of common ownership both from the perspective of competition economics ("internalization mechanisms") and corporate governance ("transmission mechanisms"), with special emphasis on the particularities of "diffuse" common ownership. Part IV explores implications for theory, competition policy and enforcement practice, and reflects on potential policy responses. Part V closes with an epilogue.

II. Varieties of common ownership and merger control

A mainstay in competition policy is merger control. Modern enforcement practice and merger control guidelines focus on market concentration and unilateral effects theories of harm. Yet, Stigler has pointedly remarked that "outright merger" is the most comprehensive form of collusion, in the sense that merged firms permanently abandon their independence and jointly determine outputs and prices.[54] Competition laws employ rigid behavioural rules (*per se*) to deter horizontal price fixing and cartels across markets whereas more flexible rules are used to scrutinise horizontal mergers and structural changes only in concentrated industries. This difference in legal treatment is in tune with economic theory and principles. While it is well recognized that merger is one way in which "competitors may be able to reduce the level of competition among themselves", notably by reducing firms' incentives for competitive pricing, they can also create important efficiencies.[55]

Merger laws and policy generally aim to catch and scrutinize structural changes in corporate ownership and control that may result in lasting changes in the structure of product markets and control of industries.[56] This basic economic principle notwithstanding, one may observe a notable lack of uniformity of merger control regimes across different jurisdictions, again in

[54] George J Stigler, 'A Theory of Oligopoly' (1964) 72 Journal of Political Economy 44, 45.
[55] Michael D Whinston, 'Chapter 36: Antitrust Policy toward Horizontal Mergers' in Robert H Porter and Mark Armstrong (eds), *Handbook of Industrial Organization*, vol 3 (Elsevier 2007) 2372 (noting that the antitrust laws are designed to address either "exclusion" or "collusion" [broadly defined], the latter category mainly concerned with horizontal price fixing [cartels] and mergers).
[56] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law: Looking Through the Past to Return to the Future?' in Marco Claudio Corradi and Julian Nowag (eds), *The Intersections between Competition Law and Corporate Law and Finance* (Cambridge University Press, forthcoming) 4 (fn 11). This describes the EU position, but a similar rationale applies to other jurisdictions.

stark contrast to anti-cartel laws. While the laws more or less agree on the treatment of full mergers and majority share acquisitions, the discrepancies are striking when considering minority shareholding transactions.[57] The discrepancies are all the more remarkable given that there is general agreement that certain minority transactions lack the integrative efficiencies associated with controlling acquisitions.[58] Why such variance if the aims of merger control policy are common? It appears that different regimes place different emphasis on legal or economic conceptions of control (corporate versus industry control or influence) to base merger control scrutiny.

On the one hand, the legal criterion of control is used in some legal systems to create a strict dichotomy in the merger review of minority shareholdings (controlling vs non-controlling). On the other hand, notions of economic control (substance) do not fully overlap with legal definitions (form) while competition and corporate theories of control inform different but interrelated questions (ownership structure-firm performance, industry structure-market competition). Transactions involving "minority" ownership and "partial" control point to distinct issues and challenges for corporate governance and industrial organization (agency costs, partial integration). What is more, common minority shareholdings have progressively come to "fall between the cracks" of corporate and competition laws as each field specialized on separate problems inside or outside the boundaries of firms ("internal affairs" of firms and principal-agent problems, "market power" of firms and their interaction in product markets).[59]

In this light, puzzling questions arise as to the purpose and scope of merger review: Why "control" as a jurisdictional criterion? Is there an "ownership threshold" that may clearly indicate (the absence of) control or competitive harm? Should merger control exclusively target controlling acquisitions involving rival firms (formal integration) or rather any tempering of their "competitive independence" due to structural changes? In other words, is competitive harm to be proxied under merger control based on a permanent change in control or also in incentives? Answers to these questions affect not only merger policy as regards traditional mergers and acquisitions but also the treatment of common ownership as a new type of structural change across firms and markets.

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[57] See section II.B below.
[58] Annex I 'Economic Literature on Non-Controlling Minority Shareholdings ("Structural links")' to Commission Staff Working Document, 'Towards More Effective EU Merger Control', SWD(2013) 239 final, para 81.
[59] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 10.

A. Varieties of common ownership compared to a full merger

In this article, I propose a basic distinction between two "varieties" of common ownership – the "concentrated" and the "diffuse" – viewed through the lens of merger control. This classification reveals the different theoretical attributes, competitive harm potential and underlying economic mechanisms for such harm to arise associated with each,[60] as well as the likelihood that these may be effectively captured under existing merger laws.[61] It is shown that the two varieties of common ownership are conceptually and analytically "separate animals".

In order to animate the subsequent discussion, it is useful to draw a graphical image of "concentrated" and "diffuse" common ownership, by comparison to the case of a full merger. All three scenarios may be perceived as special cases of "common ownership", which directly derives from the theory of "partial ownership".[62] Common ownership, or "horizontal shareholding" as has been dubbed in legal scholarship, may be defined as the simultaneous holding of (part of the) shares of competing firms by the same set of third-party investors.[63] The critical difference is that in cases of common ownership the rival firms are typically having "partially" overlapping shareholders-owners whereas in a merger they are "completely" overlapping by definition. What further distinguishes "concentrated" from "diffuse" common ownership is that the distribution of the partially overlapping shareholding interests across the rival firms and the concentration of control within them may be rather asymmetric (variety I) or almost symmetric (variety II).

More specifically, in a "full" merger or "complete" acquisition a (set of) common shareholder-investor(s) comes to *fully* own and control post-merger the two firms that were previously independent. Said differently, the merged firms have the same common owner(s) post-merger. In case of a "complete union" of the rival firms, the common owner-controller also happens to be a "sole owner" (100% ownership) of each firm, as shown in Figure 1.[64]

[60] See sections III.A and B below.
[61] See section II.B below.
[62] O'Brien and Waehrer (n 12) 731, fn 9.
[63] ibid 735, fn 17; Elhauge, 'Horizontal Shareholding' (n 10) 1267.
[64] We focus on the case of a *single* common owner-controller of the merging firms for simplicity of exposition and for easier comparison to the attributes of the concentrated and diffuse varieties of common ownership. However, the case of *multiple* common owners-controllers in a merger is analogous. The only difference is that post-merger they share the full ownership and control of the previously rival firms. Yet, since the common shareholders are fully overlapping, their financial interests are identical. So, the analysis for practical purposes is the same.

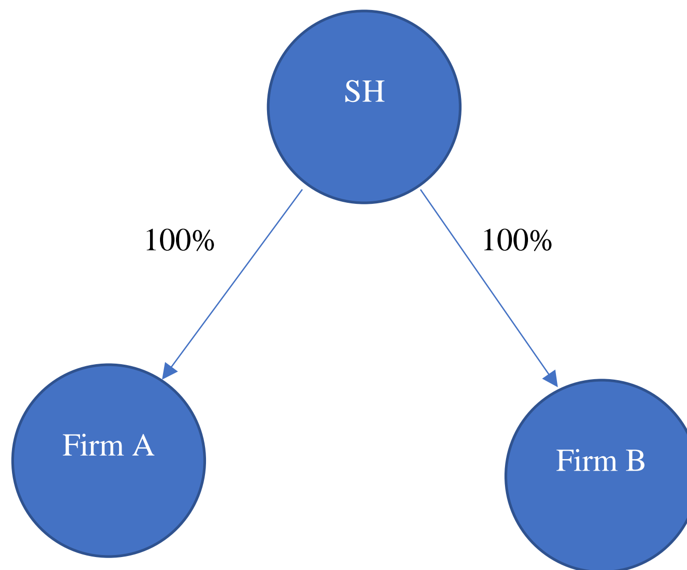

Figure 1. Full merger
(100% ownership, 100% control in both firms)

By definition, common ownership typically refers to cases of *partial* (less than 100%) ownership in at least one of the commonly held firms (otherwise we would simply have a full merger).[65] In the case of "concentrated" common ownership shown in Figure 2, the common shareholder(s) is depicted to have (up to) *full* ownership and control (as a 100% sole owner and sole controller) over one of the commonly held firms yet a totally *passive* (non-controlling) interest in the other competing firm.[66] In theory, it is also possible that the common shareholder(s) may have some control rather than a passive stake in the second rival firm.[67] Yet, the critical attribute of concentrated common ownership is that the proportion of ownership interests and level of control in the two commonly held firms is *asymmetric*.[68]

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[65] Daniel P O'Brien and Steven C Salop, 'Competitive Effects of Partial Ownership: Financial Interest and Corporate Control' (2000) 67 Antitrust Law Journal 559, 563: "unlike most merger analysis, a central part of the analysis of partial ownership is an assessment of *which owners* have *what type of control* over the corporation and how this control translates into management decisions."

[66] We assume the non-controlling stake is of <10% level based on the legal analysis of merger control regimes developed in section II.B. Also, the 100% assumption regarding the controlled firm is for illustrative purposes (an assumption of >50% majority ownership and control would also typically do) to make the analysis more tractable by having full ownership and control over one firm (sole owner) and a small ownership stake with no formal control over the other rival firm (passive owner), for reasons that will become clear in section III.A.

[67] We focus on the simple case of a *single* common owner of two commonly held firms for ease of exposition and because it has been more extensively treated in existing literature. See David Gilo, 'The Anticompetitive Effect of Passive Investment' (2000) 99(1) Michigan Law Review 1; O'Brien and Salop (n 65). Gilo analyzes the case of a single common owner being "sole controller" over firm 1 and "passive owner" in firm 2 whereas O'Brien and Salop examine a broader range of combinations of partial ownership and control including that of a single common owner being a "sole owner-sole controller" of firm 1 and a "partial owner-partial controller" of firm 2. In what follows, we employ Gilo's paradigm as the baseline for defining and analyzing "concentrated" common ownership, in order to illustrate more sharply the differences in comparing its qualities against the "diffuse" variety of common ownership that consists of "*passive*" minority shareholdings across *all* invested firms.

[68] The same rationale applies to the case with *multiple* common owners under concentrated common ownership, but the analysis is more complex.

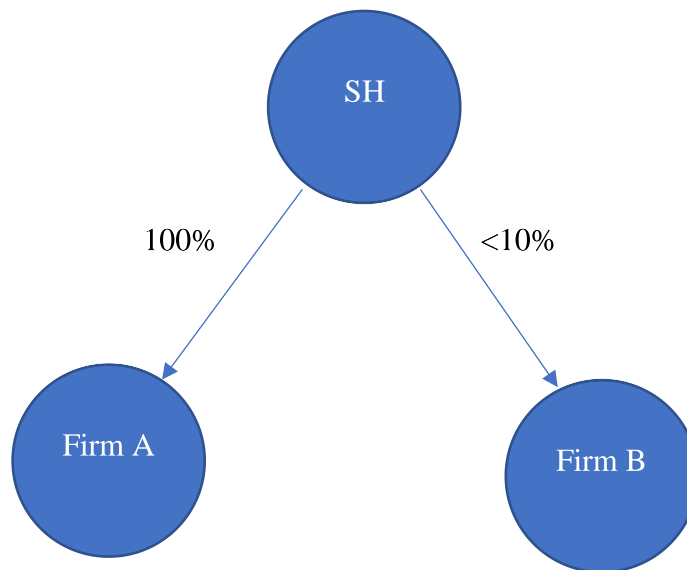
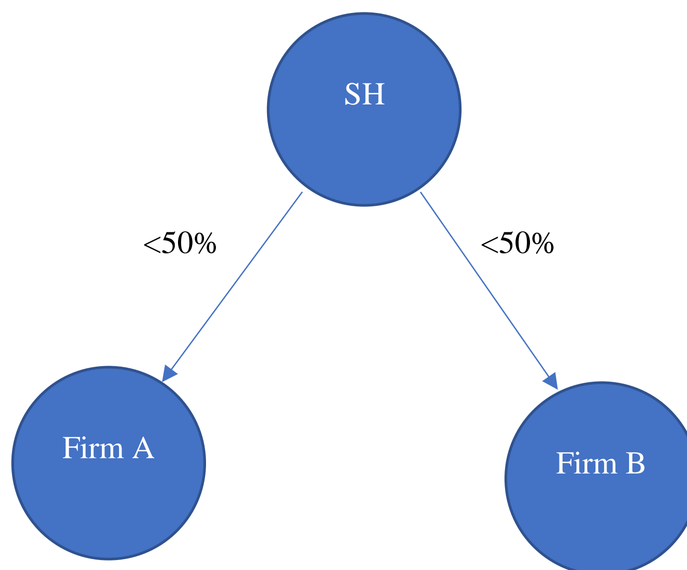


Figure 2. Concentrated common ownership
(full ownership + sole control in one firm, small passive interest in other)

By contrast, in the case of "diffuse" common ownership shown in Figure 3, the common shareholders have *minority* ownership and control (below 50%) in *both* commonly held firms at the same time.[69] That is, ownership and control of diffuse common owners in all the rival firms is partial and formally "non-controlling" on a standalone basis.[70] It follows that there are *multiple* common owners that share such partial ownership and control across the rival firms,[71] and there is no "sole owner" or "sole controller" (either as a common or non-common shareholder) in any of the commonly held firms.[72] It also follows that any common control of

[69] O'Brien and Waehrer (n 12) 731: "While it is widely accepted that common ownership can have anticompetitive effects when the owners have control over at least one of the firms they own (a complete merger is a special case), antitrust authorities historically have taken limited interest in common ownership by minority shareholders whose control seems to be limited to voting rights. Thus, if the empirical findings [...] in the emerging research are correct and robust, they could have dramatic implications for the antitrust analysis of mergers and acquisitions. The findings could be interpreted to suggest that antitrust authorities should scrutinize [...] also situations in which all of the common owner's shareholdings are small minority positions."; Rosati and others (n 26) 15.
[70] The common thread weaving together both varieties of common ownership and full mergers is their conceptual link to the theory of partial ownership. See O'Brien and Salop (n 65). Accordingly, the two core parameters determining the scope and magnitude of unilateral competitive effects in all these cases consist of: i) a degree of *collective* financial *interest*; and ii) some measure of *common control*, produced by the simultaneous investments in rival firms and the resulting (partial) shareholder overlaps across firms. The novelty of "diffuse" common ownership is that both the common interest and the common control in all the interlinked firms is partial.
[71] Unlike "concentrated" common ownership that may also exist in the presence of a *single* common owner of two rival firms, having no control over the one (passive investment) and total control over the other (either under complete (100%) ownership as in a full merger, or majority (>50%) ownership as in a controlling acquisition).
[72] This means that the "sole owner"–"sole controller" paradigm (that may fit the "concentrated" common ownership variety because formal control, either under complete or majority ownership, may be established in at least one of the commonly held firms) is not appropriate for assessing "diffuse" common ownership that rests on a lack of large asymmetric blockholders. Given the dispersed shareholder structure in situations of "diffuse" common ownership, note that 100% (full) "sole ownership" (or equivalently majority ownership and sole control) of all commonly held firms is not possible but also that "no control" whatsoever (passive ownership) across all commonly held firms is equally impossible (as corporate control has to lie with some shareholder(s) eventually).

diffuse common owners in individual firms is *informal* (i.e., factual). Thus, the truly novel and distinctive characteristics of diffuse common ownership are that, depending on the context that it arises (i.e., dispersed ownership of large public corporations, widespread portfolio diversification by passive institutional investors such as index funds): i) the common shareholders' interests in the rival firms may be parallel and similar or *symmetric* (roughly equal, which makes not to matter what or how low the level of the individual common shareholdings may be[73]), whereas ii) corporate control is typically proportional (to share ownership based on the standard "one share-one vote" corporate norm),[74] relative (to other shareholders rather than absolute) and equally *shared* among the common shareholders (*de facto* joint control absent larger non-common shareholders).[75]



As a result, "diffuse" common ownership entails partial ownership and partial control precisely because of the (corporate ownership and governance) context in which it arises.

[73] From the perspective of common shareholders, what matters is their total portfolio profits and relative financial interest in the rival firms given the size of their individual common shareholdings. If such shareholdings are symmetric, the level of ownership participation or control becomes irrelevant as individual firm profits are equally internalized and control is equally shared among the common owners in the absence of more powerful undiversified shareholders. See Julio J Rotemberg, 'Financial Transaction Costs and Industrial Performance' [1984] MIT Sloan School of Management Working Paper No. 1554-84 (considering the case of *ex ante* identical diversified shareholders with equal stakes in all [symmetric] firms).

[74] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 7–8.

[75] O'Brien and Waehrer (n 12) 741: "a common owner's influence over the manager rises as the other owners' shareholdings become more diffuse.". Absent a large dominant shareholder in firm governance (with majority ownership and control) and given the corporate law "one-share-one-vote" principle in the absence of special asymmetric governance structures (e.g., dual class shares), the competitive effects of common minority ownership are estimated based on a "proportional control" assumption, which essentially implies for any positive level of common ownership among rival firms there is some potentially anticompetitive effect even if produced by small, minority shareholdings. More generally, the magnitude and likelihood of the effect depends on particular corporate governance and control assumptions. Azar, Schmalz and Tecu (n 1) (using the "proportional control" assumption in empirical research to calculate the MHHI; but also testing alternative control scenarios e.g., by using Banzhaf indices of voting power [defined as the probability that a shareholder is pivotal in an election] and finding that the proportional control assumption is not driving the baseline results).

Figure 3. Diffuse common ownership
(minority ownership + partial control in both firms)

There is a double rationale for the choice of terminology for the distinction between the two varieties of common ownership. "Concentrated" common ownership suggests: i) concentration of ownership (up to 100%) in a *single firm* relative to the other commonly held firms that are partially owned by means of lower shareholding participations (less than 100%, or in any event less than the shareholding held in the first firm) - in which case the common owner's "*relative* financial interest" in the linked firms is clear); ii) concentration of control in a *single dominant shareholder* ("sole control" - a sole 100% owner being an extreme case of concentrated common ownership, but sole control may also be established in case of "partial" majority ownership). On the other hand, "diffuse" common ownership means: i) diffusion of ownership across *many firms* that are simultaneously commonly held in part and *in parallel*, possibly by means of symmetric holdings as in the case of investment via index funds (full shareholder diversification being an extreme scenario whereby all shareholders of all firms hold the market portfolio[76]); ii) dilution of control to less than fully (100%) or solely controlling (>50%) levels in which case *many common shareholders* may have minority control over (all of) the commonly held firms, *de facto* as a group, relative to other dispersed shareholders.[77]

In this light, it is the "diffuse" common ownership variety that relates to the contemporary debate on the competitive effects arising from multiple, parallel minority shareholdings in rival firms held by common institutional investors (diffuse institutional ownership).[78] Common institutional ownership is thus characterized not only by the fact that: i) there are *several* common owners (typically minority investors with less than 50% ownership); but also ii) the institutional investors in theory act as *agents* (investment intermediaries) on behalf of the ultimate owners (individual, retail investors) yet in practice they are often delegated to exercise autonomous decision-making authority in their investment and corporate governance activities (acting as *de facto* shareholders).[79] This type of common ownership has risen due to portfolio

[76] Azar, 'The Common Ownership Trilemma' (n 51) 265–266, 283–286.
[77] On the particular nature of control in cases of diffuse common ownership, see section III.B below.
[78] Romano (n 8) 366 and passim (referring to "diffuse institutional ownership" and what has been called in legal scholarship "horizontal shareholding", i.e., common institutional ownership within the same product market). See Elhauge, 'Horizontal Shareholding' (n 10) 1267; Fiona Scott Morton and Herbert Hovenkamp, 'Horizontal Shareholding and Antitrust Policy' (2018) 127(7) Yale Law Journal 2026, 2027; Dimitris Tzouganatos, 'Horizontal Shareholding and EU Competition Law' in Stefan Grundmann, Hanno Merkt and Peter O Mülbert (eds), *Festschrift für Klaus J. Hopt zum 80. Geburtstag am 24. August 2020* (De Gruyter 2020) 1303.
[79] For these reasons the analysis is more complex and needs to be case-specific. For instance, it may depend on the context and facts of the case to determine whether the diffuse institutional common owners are the "real" owners (residual claimants) and "actual" controllers (exercising governance power and management influence)

diversification, especially due to the "enormous success" of "passive" index funds.[80] Diversification has rendered "corporate ownership both diffuse and collectivized at the same time" meaning that "many small shareholders are *partial "co-owners"* not only of a single but several competing corporate enterprises" given their parallel (often symmetric) common shareholdings within an industry.[81] Accordingly, diffuse common owners are interested in their *total portfolio profits* (rather than individual firm profits), thus having the incentive to internalize any competitive externalities among their invested rival firms (interest in industry-wide returns rather than "cut-throat competition") while they follow "passive investment" and "portfolio-wide" (rather than firm-specific) governance strategies that maximize portfolio value.[82]

As such, this new type of institutional and index fund common ownership has particular "hidden" properties: diffuse common shareholdings may lead to "invisible" rival profit internalization that transcends the boundaries of firms (cumulative unilateral or network-like effects) and "latent" shareholder control concentration that operates below formal legal definitions of corporate control (*de facto* joint control).[83] In other words, the anticompetitive mechanisms that underpin the diffuse common owners' incentives and ability to generate competitive harm do not rely on active influence or individual firm governance due to "big" and "active" equity holdings in at least one of the commonly held rival firms, as in cases of concentrated common ownership.[84] The atypical threat of diffuse common ownership by passive, diversified investors and index funds is its potential *aggregate effect on competition* by a web of individually "small" and "passive" but multiple and parallel common shareholdings in rival firms in oligopolistic industries,[85] and the hidden *aggregation of*

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of the commonly held firms. See Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 13–26.

[80] Azar, 'The Common Ownership Trilemma' (n 51) 265, 268, 269 ("portfolio diversification could be achieved without index funds [...]. However, in practice it is the rise of index funds that has led to overlapping holdings of large blocks of stock among almost all publicly traded firms."); Fichtner, Heemskerk and Garcia-Bernardo (n 25) 298-299.

[81] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 22.

[82] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 21-22; Fichtner, Heemskerk and Garcia-Bernardo (n 25) 300.

[83] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 25; Tzanaki, 'The Common Ownership Boom - Or: How I Learned to Start Worrying and Love Antitrust' (n 38) 8, and fn 55. See also Azar, Schmalz and Tecu (n 1); Henry TC Hu and Bernard S Black, 'The New Vote Buying: Empty Voting and Hidden (Morphable) Ownership' (2006) 79 Southern California Law Review 811.

[84] See sections III.A and B below on the internalization and transmission mechanisms of common ownership.

[85] Elhauge, 'Horizontal Shareholding' (n 10) 1309; Einer R Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (2020) 10 Harvard Business Law Review 207, 256–258, 269.

shareholder power in the governance of the commonly held firms in the hands of the potentially relatively more prominent common shareholders.[86] What is more, for certain types of investors, typically diversified and passive, and certain types of firms, typically publicly listed firms with a dispersed shareholder base, corporate law and governance principles (such as rules on fiduciary duties) need not necessarily obstruct or constrain such potential effects.[87] That is, diffuse common ownership may not be constrained by corporate governance actors (non-common shareholders, managers) and institutions.[88] In fact, latest corporate law scholarship encourages the *"systematic" or "portfolio-wide" governance* style of passive institutional investors, precisely for the same reason that their presence may lead to competitive harm: their *ability* to internalize externalities given their *collective interest* in their diversified portfolio of invested firms.[89]

It follows from the above that the appropriate benchmark for assessing the competitive effects of the two varieties of common ownership is very different. This is because the most anticompetitive harm potential is reached: i) in case of "*focused*" majority ownership and concentrated shareholder power under a model of "targeted" governance and "total" sole control over at least one commonly owned firm (asymmetric common ownership and control) for "concentrated" common ownership,[90] while ii) in case of perfectly "*symmetric*" (i.e., equal) and parallel ownership of all the commonly held firms due to diversification (rather than within-firm shareholder concentration as such) and "portfolio" governance that entail aligned economic incentives and shared minority control among several common shareholders (symmetric common ownership and control) for "diffuse" common ownership, other things

[86] It is noted that the index fund (and other individual fund) shares are voted centrally at the fund family level in a coordinated manner while separate large institutional investors with similarly diversified interests may also vote in a similar (and possibly coordinated) way or act in congruence in their governance activities, although such coordination need not be explicit. See Fichtner, Heemskerk and Garcia-Bernardo (n 25) 316–317; Azar, Schmalz and Tecu (n 1) 1525; Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 211; Coates (n 25) 13–15.
[87] See n 135, 186 and 233 below and surrounding text.
[88] *Minority* shareholding has been typically thought to require legal protection vis-à-vis the firm's *controllers* (be they corporate managers or dominant blockholders) when analyzed through the lens of corporate law.
[89] Madison Condon, 'Externalities and the Common Owner' (2020) 95 Washington Law Review 1, 1; John C Coffee, 'The Future of Disclosure: ESG, Common Ownership, and Systematic Risk' [2020] ECGI Law Working Paper 541/2020; Jeffrey N Gordon, 'Systematic Stewardship' [2021] ECGI Law Working Paper 566/20211 11; Luca Enriques and Alessandro Romano, 'Rewiring Corporate Law for an Interconnected World' (2021) 64 Arizona Law Review, Forthcoming; cf Mark J Roe, 'Corporate Purpose and Corporate Competition' <https://papers.ssrn.com/abstract=3817788>.
[90] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 21; O'Brien and Salop (n 65) 578.

being equal.[91] Consequently, a "sole owner"-"no agency cost" paradigm that may fit well when analyzing concentrated common ownership cases with a single dominant shareholder disciplining corporate management may be rather unsuitable or misleading in evaluating diffuse common ownership's harm potential.[92] Given the presence of many common owners in many rival firms at the same time with "mirroring" diversified portfolios,[93] a "perfect symmetry" benchmark is more apt to capture aggregate effects that given the size of individual shareholding and level of standalone control may seem implausible or improbable at first sight.

Another way to see this is that "concentrated" common ownership cases require a "merger-like" analysis given the clear yet disproportionate *legal* control established over one of the commonly held firms (asymmetric solely controlling acquisition) whereas "diffuse" common ownership cases call for a "joint venture-like" analysis given the symmetric yet *factual* minority control that underpins the parallel (similar if not identical) interests in the many commonly held rival firms (*de facto* jointly controlling acquisition).[94] It is notable that in the special case of a full merger (or a joint venture), these qualities happen to coincide: full common control and identical financial interests are found in the complete union of the previously independent merging firms.[95] Unlike a full merger (or a joint venture) that is presumed to lead to joint profit maximization post-merger, common ownership may be perceived as an effective "partial merger" presumably leading to "partial" internalization of rival profits.[96] In this context, therefore, the critical difference between concentrated and diffuse common ownership is that this "partial" internalization of rival profits is *asymmetric* in the first case while more *symmetric* in the latter.

In this light but seen from a post-merger (*ex post* legal) perspective, "concentrated" and "diffuse" common ownership may be thought to roughly correspond to situations of partial acquisitions involving "controlling" and "non-controlling" shareholdings (on a standalone

[91] Boller and Morton (n 20) 6–7; Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 9; O'Brien and Salop (n 65) 612.
[92] Coates (n 25) 2, 17–18; Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 65.
[93] Condon (n 89) 64.
[94] cf Robert J Reynolds and Bruce R Snapp, 'The Competitive Effects of Partial Equity Interests and Joint Ventures' (1986) 4 International Journal of Industrial Organization 141, 142 fn 4 (noting that "this 'merger equivalent' approach has necessarily led to lenient treatment for equity interests too small to convey control").
[95] Stanley M Besen and others, 'Vertical and Horizontal Ownership in Cable TV: Time Warner-Turner (1996)' in John E Kwoka and Lawrence J White (eds), *The Antitrust Revolution: Economics, Competition, and Policy* (3rd ed, Oxford University Press 1999) 464, 467.
[96] Azar and Tzanaki (n 10) 17. In the limit, full (diffuse) common ownership within an industry may lead to an "effective" monopoly outcome.

basis) respectively.[97] The next section moves on to look at the legal treatment of majority and minority acquisitions under diverse merger control regimes. This comparative analysis aims to specify the extent to which legal conceptions of control and applicable merger thresholds may be able to capture partial acquisitions relating to the two varieties of common ownership.

B. The purpose and limits of merger control

Merger review is the "one-off", usually *ex ante*, "process to determine whether a more durable combination of previously independent assets is likely to materially change incentives as to how the assets are used in the competitive process".[98] The aim of merger control is thus to target and scrutinize transactions such as full mergers or acquisitions of ownership and control that are "sufficiently material", in terms of size of the parties or the transaction or shareholding, and "may harm competition" through structural changes in the market that may create durable market power.[99] The concept of "control" is a key foundation both for the legal definition of a notifiable merger transaction and also for the economic theories of harm associated with mergers and acquisitions. The underlying economic logic is that "in most horizontal mergers, two competitors come under common ownership and control, completely and permanently eliminating competition between them".[100] Accordingly, legal jurisdictions generally agree that full mergers and "majority" acquisitions be subject to their merger control rules.

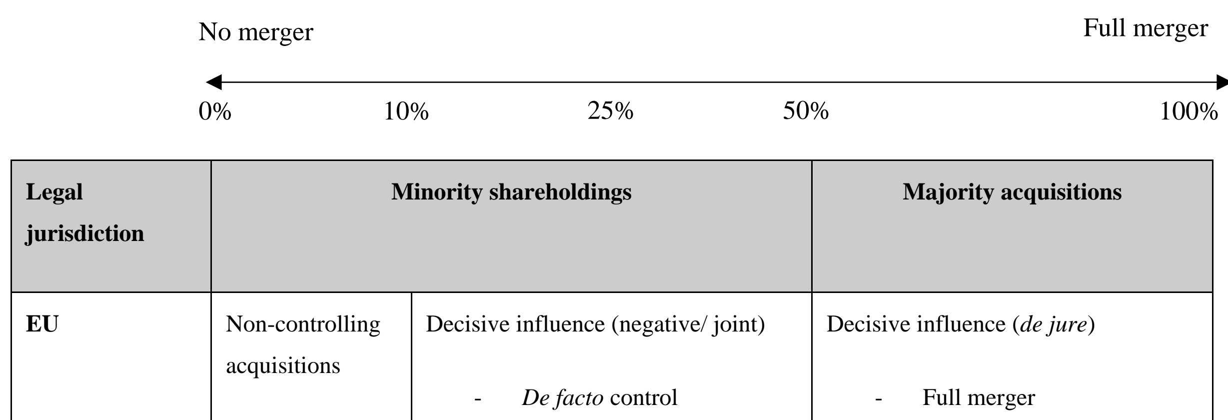
In contrast, the treatment of "minority" acquisitions varies greatly under different merger control regimes. Certain forms of "controlling" or competitively "influential" minority shareholdings are to different degrees captured by merger control statutes. On the other hand, although the potential anticompetitive effects of "non-controlling" or purely "passive" shareholdings have long been recognized, the harm potential is often not considered likely, material or predictable enough to justify scrutiny of *all* minority shareholding transactions under *ex ante* merger control procedures.[101] Indeed, the institutional design of merger control

[97] O'Brien and Waehrer (n 12) 737–738: "Building on Bresnahan and Salop (1986), O'Brien and Salop (2000) generalized the framework for assessing the effects of partial ownership [...] The theory accommodates complete mergers, controlling partial investments, and non-controlling partial investments as special cases."
[98] OECD, 'Definition of Transaction for the Purpose of Merger Control Review' (2014) Policy Roundtable DAF/COMP(2013)25 5.
[99] ibid 5–6. Merger control regimes use different "objective" (numerical) criteria and/or more "economic" criteria (open-ended standards) to single out M&A transactions for review. The first category is used to specify (ownership) percentage thresholds for share acquisitions in the target, while the second category aims to select potentially problematic transactions (e.g., "by focusing on whether a transaction will enable a firm to acquire the ability to exercise some form of influence over a previously independent firm").
[100] US Horizontal Merger Guidelines 2010 §13. See also UK Enterprise Act 2002, Section 26(1).
[101] European Commission, Green Paper on the Review of Council Regulation (EEC) No 4064/89, COM(2001) 745 final, paras 107-109.

systems underscores a tension between effectively addressing competitive concerns and additional administrative cost or lack of practicality.[102] Competition regulators have diverging opinions in striking this balance. Nonetheless, it is important to note that if the relative proportions of any of the elements that are weighed on both sides of the scale (e.g., increased likelihood or materiality of harm, possibility of a workable solution) change, revisions of existing merger control rules may be justified in "error-cost" terms.[103]

Figure 4 provides an overview of some prominent merger control systems and the legal tests they apply to capture majority or minority acquisitions. As it may be seen, the range of applicable ownership thresholds as well as the extent and intensity of control or influence examined for varying levels of shareholding acquisitions differ widely, depending also on the surrounding legal, economic and administrative environment (e.g., complementary corporate and securities laws, financial markets context, multilevel governance as between the EU and its Member States). Although a comparative analysis has been extensively treated elsewhere,[104] I provide below a summary of the main positions and key differences among the merger control regimes of major jurisdictions in Europe and the United States where evidence and policy attention to the significance of the common ownership phenomenon has been gathering.[105]

Figure 4. Spectrum of (legal) control or influence –
Merger control tests for varying levels of shareholding acquisitions



Legal jurisdiction	Minority shareholdings		Majority acquisitions
EU	Non-controlling acquisitions	Decisive influence (negative/ joint) - *De facto* control	Decisive influence (*de jure*) - Full merger

[102] European Commission, White Paper, 'Towards More Effective EU Merger Control', COM(2014) 449 final.
[103] Frank H Easterbrook, 'The Limits of Antitrust' (1984) 63 Texas Law Review 1; Jonathan B Baker, 'Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right' (2015) 80 Antitrust Law Journal 1.
[104] European Commission, 'Support Study for Impact Assessment Concerning the Review of Merger Regulation Regarding Minority Shareholdings' (2016) Report by Spark Legal Network and Queen Mary University of London; OECD, 'Antitrust Issues Involving Minority Shareholdings and Interlocking Directorates' (2009) Policy Roundtable DAF/COMP(2008)30.
[105] See n 21-29 above and accompanying text.

		- Minority block position * *de facto* blocking minority <25% / “plus factors” for >5-20% under EUMR reform proposal		- Sole control
Germany	No influence (*soft* safe harbor)	Competitively significant influence *(de facto*: *as if* >25% / jointly)	Minority block position >25% (presumed legal influence)	Control acquisitions - Full merger - Sole control
UK	No influence (*soft* safe harbor)	Material influence/ *de facto* control - Presumed: >25% - “Plus factors”: >15%		Controlling interest (*de jure*) - Full merger - Sole control
USA	Partial acquisitions - no notification: ≤10% (passive investment) or ≤15% for institutional investors * reporting: >1% *aggregate* institutional holdings under HSR reform proposal (unless passive)			Control acquisitions - Full merger - Sole control

The most conservative is the EU approach that employs a “decisive influence” test to determine which transactions fall within its merger control regime. Under the EU Merger Regulation (“EUMR”),[106] the “possibility of exercising decisive influence” may be established either on a standalone basis (“sole control”)[107] or jointly with other shareholders (“joint control”). Acquisitions of below 50% of voting shares may lead to a finding of effective control (“*de facto* control”) if the remaining shareholder base is very dispersed and the acquirer has in practice the largest (minority) stake in the target, which effectively means that it is “highly likely to achieve a lasting majority of the votes cast at the shareholders’ meetings, given the evidenced presence of shareholders at past meetings and the voting patterns in previous

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

[107] *De jure* sole control is clearly established for “majority” share acquisitions (> 50% of voting shares) but may also be established by means of contracts or special rights attached to “minority” shareholdings (e.g., disproportionate voting, veto, management or board representation rights). Articles 3(1)(b) and 3(2) of the EUMR.

years".[108] "Joint control" may be found on the basis of : i) "equal voting or board representation rights", i.e., equality of two parent companies in a joint venture; ii) "strategic veto rights", i.e., power to block strategic decisions, when a supermajority of votes is required, resulting in deadlock situations (*de jure* blocking power); iii) "joint exercise of voting rights" or "stable coalitions" between minority shareholders, i.e., if they act together as a group and are able to jointly achieve an *ex ante* certain and stable majority in corporate decision-making (majority voting bloc); or iv) "strong common (strategic) interests", i.e., if they are expected not to act against each other in exercising their rights and are required to cooperate in practice (*de facto* collective action).[109] "Non-controlling" minority shareholdings or "changing (voting) coalitions" are not captured by the EUMR. [110] However, in recent reform proposals the European Commission considered of extending the EUMR to shareholdings giving rise to a "*de facto* blocking minority" (as in some Member States, below a legal threshold of 25%) or shareholdings above 5% that combined with "additional factors" may establish a "competitively significant link".[111]

EU Member States such as Germany and Austria apply lower control thresholds than "decisive influence". In Germany, any acquisition of shares of 25% is automatically subject to its merger control rules, whereas shareholdings below 25% are reviewable if they give rise to a "competitively significant influence",[112] which is construed as a position of *de facto* influence comparable to that of a shareholder of 25% shares or voting rights.[113] In practice, this latter test only rarely will capture minority interests below 10%,[114] although, in theory, there is no "safe harbor".[115] Furthermore, "competitively significant influence" may be found to be exercised

[108] Anna Tzanaki, 'The Legal Treatment of Minority Shareholdings Under EU Competition Law: Present and Future' [2015] Essays in Honour of Professor Panayiotis I. Kanellopoulos, Sakkoulas, Athens 861, 867 (fn 36).
[109] European Commission, Consolidated Jurisdictional Notice under Council Regulation 139/2004 on the control of concentrations between undertakings [2008] OJ C 95/1, paras 62-82.
[110] Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20); Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 15 (fn 64).
[111] White Paper (n 102), para 47; European Commission, Staff Working Document accompanying the White Paper, 'Towards More Effective EU Merger Control', SWD(2014) 221 final, paras 90-93.
[112] Act against Restraints of Competition (Gesetz gegen Wettbewerbsbeschränkungen, "GWB") §37(1)3.b and 4.
[113] Sabine Zigelski, 'Der Wettbewerblich Erhebliche Einfluss Wird 20' (2009) 59 Wirtschaft und Wettbewerb 1261; Jens Peter Schmidt, 'Germany: Merger Control Analysis of Minority Shareholdings – A Model for the EU?' (2013) 2 Concurrences N° 51496 207, 208 ("the influence must be established by means of corporate law [...] The acquisition must further grant the acquirer[s] in light of additional *de jure* or *de facto* circumstances [so-called 'plus factors'] on a lasting basis the status of a minority shareholder with a blocking minority.").
[114] OECD, 'Definition of Transaction for the Purpose of Merger Control Review' (n 98) 22 and 93.
[115] Thomas Wilson and James Parkinson, 'Minority Shareholdings: An Overview of EU and National Case Law' [2020] e-Competitions Bulletin, Art. N° 95354 4.

jointly by several companies when a "joint possibility of influence" is established on a *de facto* basis or a "common interest which goes beyond the joint participation as such" is evident.[116]

Similarly, UK merger control rules may apply to acquisitions of minority shareholdings that confer the ability to exercise "material influence" over the target.[117] Such influence is presumed for shareholdings with voting rights above 25% but may also be found for shareholdings of 15% or more (e.g., based on the "acquirer's ability to influence the target's policy through exercising voting rights at shareholders' meetings", together with "any additional supporting factors").[118] Exceptionally, shareholdings below 15% may attract scrutiny. The CMA has wide "discretion" in applying the "material influence" test and in theory there is no minimum shareholding threshold that excludes such influence.[119]

The U.S. merger control regime is the most far-reaching. In the United States, any acquisition of stock is subject to scrutiny and may be challenged under Section 7 of the Clayton Act, where the effect "may be substantially to lessen competition".[120] The Horizontal Merger Guidelines include a section on "partial acquisitions"[121] that provides the circumstances under which these are analysed as mergers, i.e., if they result in "effective control", or pursuant to a distinct analysis considering "any way they may affect competition". In the latter case, the US agencies focus on "three principal effects": i) the acquirer's ability to influence the competitive conduct of the target; ii) a reduction in the acquirer's incentive to compete; iii) the acquirer's access to the target's non-public, competitively sensitive information.[122] The Hart-Scott-Rodino ("HSR") Act[123] requires premerger notification for acquisitions of "voting securities" above certain thresholds, irrespective of obtaining any control or influence[124] or the existence of a "competitive link" between the parties.[125] However, the reporting rules exempt acquisitions of

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[116] Note by Germany, 'OECD Roundtable on Common Ownership by Institutional Investors and Its Impact on Competition' (2017) DAF/COMP/WD(2017)87 7 (fn 22).

[117] Enterprise Act 2002, Section 26(3). A relevant "merger situation" may exist under the Act on the basis of three levels of control: i) a "controlling interest" (*de jure* control); ii) "ability to control" (*de facto* control); or iii) "material influence" (minority control).

[118] UK Competition and Markets Authority ("CMA"), Mergers: Guidance on the CMA's jurisdiction and procedure, January 2014, paras 4.15-4.22.

[119] UK Merger Assessment Guidelines, September 2010, Section 3.2.6.

[120] 15 U.S.C. §18.

[121] US HMG 2010 §13: "The Agencies [...] review acquisitions of minority positions involving competing firms, even if [they] do not *necessarily* or *completely* eliminate competition between the parties to the transaction".

[122] Ibid.

[123] 15 U.S.C. §18a.

[124] OECD, 'Definition of Transaction for the Purpose of Merger Control Review' (n 98) 197.

[125] European Commission (n 104) 33.

10% or less that are made “solely for the purpose of investment”[126] (filing exemption) or analogously acquisitions of 15% or less made by “institutional investors”.[127] Although the US regime provides for a similar “solely for the purpose of investment” exemption from liability under Section 7 of the Clayton Act (substantive exemption), this is inapplicable in case of “any influence”, e.g., by “passive” institutional investors who are “active owners” in their governance activities, or “actual anticompetitive effects” even after completion of the acquisition.[128] Interestingly, the U.S. antitrust agencies have recently proposed two amendments to the HSR Act reporting rules: 1) requiring aggregation of holdings of all “associates”[129] within the more-broadly defined acquiring “person”; and 2) introducing a new “*de minimis* exemption” for acquisitions 10% or less “without an examination of intent”, given that “they are unlikely to violate the antitrust laws”, unless: i) the acquiring person has a “competitively significant relationship” with the issuer (cross-ownership); or ii) “the acquiring person (and its associates) hold more than 1% in a competitor of the issuer on an aggregate basis” (common ownership); or iii) “someone from the acquiring person is an officer or director of the issuer or a competitor of the issuer” (interlocking directorates).[130] The second exception to the proposed exemption seeks to “ensure the Agencies receive filings that provide insights into the influence of holdings in competitors” given the current common ownership debate.

III. Mechanisms of Common Ownership

In order to fully appreciate the subtleties of the basic distinction between concentrated and diffuse common ownership proposed in this article, it is useful to understand the precise mechanisms and modes of operation under which each variety of common ownership: (A) may alter incentives to compete for common shareholders and their commonly held rival firms and produce competitive harm (internalization mechanisms), and also (B) may influence corporate

[126] 15 U.S.C. § 18a(c)(9). The exemption applies if the [holder or acquirer] “has no intention to participate in the formulation, determination, or direction of the basic business decisions of the issuer” (16 C.F.R. § 801(1)(i)).
[127] 16 C.F.R. § 802.64(b).
[128] Elhauge, ‘Horizontal Shareholding’ (n 10) 1305–1312 (analyzing the scope of the substantive and filing “passive investment” exemptions, and suggesting a change in the US agencies’ interpretation so that filing is required “whenever a set of large shareholders plans to vote shares that, in aggregate, are more than 10% of the stock in multiple competing corporations”. Although merely voting does not automatically exclude “passive intent”, the filing exemption is currently inapplicable when, among others, there are: i) interlocking directorates; or ii) cross-ownership of rivals).
[129] Previously, reporting was required only for “associates” with controlling or minority interests in entities active in the same line of business as the target.
[130] FTC Notice of Proposed Rulemaking (n 22).

management and firm behavior within the governance of the commonly held firms (transmission mechanisms).[131] The following sections closely examine these mechanisms.

A. Competition effects and internalization mechanisms

The above merger control analysis creates the impression that minority acquisitions that involve *small* shareholdings (e.g., below 10%) or afford less intense degrees and kinds of influence ability (e.g., "*non-controlling*", "passive" or *de facto* "influential" shareholdings[132]) may produce limited and *ad hoc* effects on competition and welfare. Hence, their generally privileged treatment under merger laws. While such views are common in the literature, they only represent an overgeneralization of the competitive implications of partial acquisitions, and diffuse common ownership in particular, that is not justified in principle. For instance, this assessment may be accurate in *some* cases when applied to *individual* minority shareholdings seen in isolation. Yet as a general matter, the economic analysis is more complex (e.g., in case of multiple, widespread common shareholding links among rivals in an oligopoly) and needs to be granular (i.e., case and context specific). This in turn means that the economic and legal or institutional context and specific details in each individual case may matter to determine the impact of partial acquisitions on both industry and firm performance.

More specifically, the potential competition effects of partial acquisitions are the product of three particular factors: i) market structure, ii) ownership structure, and iii) governance structure.[133] For instance, in (almost) perfectly *competitive markets* the effects of such acquisitions between actual or potential competitors may be unlikely or negligible as aggressive product market competition (and the competitive constraints posed by other independent competitors) is expected to discipline any anticompetitive instincts of the partially linked rival firms. Furthermore, in corporate settings where there is a discernibly dominant shareholder with total control of the firm (or a homogenous group of shareholders with majority control over the board of directors and corporate management), the likely competitive threat or impact of minority shareholding acquisitions is also considered to be insignificant or

[131] See n 19 above.
[132] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 13–27 (distinguishing between different shareholding types and analyzing their antitrust implications). *De facto* "influential" here are termed minority shareholdings that may have competitive effects (competitive influence) even though they may be "passive" in form (corporate influence).
[133] Heiko Karle, Tobias J Klein and Konrad O Stahl, 'Ownership and Control in a Competitive Industry' [2011] ZEW Discussion Paper No. 11-071; Nadav Levy, Yossi Spiegel and David Gilo, 'Partial Vertical Integration, Ownership Structure, and Foreclosure' (2018) 10 American Economic Journal: Microeconomics 132.

inconsequential in terms of its implications for business strategy or general firm governance. Under these conditions, minority shareholdings albeit in rivals can be safely considered "passive" in the antitrust sense (no *market power* motive or effect) in that they are not prone to produce material competitive concerns.[134]

In this light, a public policy supporting the more lenient legal treatment of small, non-controlling minority acquisitions and justifying the current merger law structure in certain jurisdictions may implicitly rest on the following double premise and default assumptions: i) the presence of *competitive constraints* in rigorously functioning product markets, ii) the presence of some *controlling shareholder(s)* disciplining and directing firm management and behavior within corporate governance.[135] Both of these forces – competition in product markets and antagonism in corporate governance[136] – would plausibly and presumably counteract competitive concerns arising from non-controlling minority shareholdings. Besides, economic theory suggests that intense rivalry among market players and shareholder control over corporate managers ensure that firm behavior is generally induced and constrained to maximize

[134] Enzo Moavero Milanesi and Alexander Winterstein, 'Minority Shareholding, Interlocking Directorships and the EC Competition Rules - Recent Commission Practice' (2002) 1 Competition Policy Newsletter 15, 15 ("it follows [from EU case law] that there is a 'safe haven' for minority shareholdings in competitive markets and without accompanying voting/representation rights, interlocking directorships, special rights [such as share options] or post-transaction cooperation arrangements."); Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20) 16 (drawing a clear distinction between the antitrust versus the corporate law and finance definition of "passivity" as regards minority shareholdings).

[135] Further governance constraints may exist in the form of corporate law fiduciary duties; however, not all legal systems uniformly recognize such duties to be imposed on minority shareholders (for all types of corporations). For a comparison of US and German law, as two major representative jurisdictions with common law versus civil law systems, see Sophia Dai and Christian Helfrich, 'The Structure of Corporate Ownership and Control' [2016] Comparative Corporate Governance and Financial Regulation. Paper 9. 6, 12–13 ("Under US corporate law, minority holders like activists would not owe any fiduciary duties to other shareholders. [...] What this means is that investors often have the freedom to vote for governance or business decisions that will primarily benefit themselves, even if at the expense of the corporation, other shareholders, and stakeholders."); JAC Hetherington, 'The Minority's Duty of Loyalty in Close Corporations' (1972) 1972 (5) Duke Law Journal 921, 933–935 (noting that duties on minority shareholders are exceptional on the assumption that they have congruent interests with other shareholders in promoting firm and stock value, and may arise only when their vote is decisive); Andreas Cahn, 'The Shareholders' Fiduciary Duty in German Company Law' in Hanne S Birkmose (ed), *Shareholders' Duties* (Kluwer Law International 2017) 354 ("the rationale underlying the shareholders' fiduciary duty, namely the need to ensure that the power to affect the investment of one's fellow shareholders is not abused by promoting individual interests at the expense of the company, applies not only to the majority but also to the minority.").

[136] Theory and evidence suggest that there is an interplay between these two forces. First, perfect competition acts as a substitute for corporate governance (no agency costs) and second, it is imperfect competition that creates the corporate governance antagonism (competition for rents) and makes corporate governance valuable (in the absence of competitive pressure). See Mark J Roe, *Political Determinants of Corporate Governance: Political Context, Corporate Impact* (Oxford University Press 2006) 125–129; Mark J Roe, 'The Shareholder Wealth Maximization Norm and Industrial Organization' (2001) 149 University of Pennsylvania Law Review 2063; Manuel Ammann, David Oesch and Markus M Schmid, 'Product Market Competition, Corporate Governance, and Firm Value: Evidence from the EU Area' (2013) 19 European Financial Management 452; Julia Chou and others, 'Product Market Competition and Corporate Governance' (2011) 1 Review of Development Finance 114.

profits and minimize cost and managerial slack.[137] In fact, intense product market competition may as a general matter reduce "private benefits of control", meaning any kind of corporate "agency costs" regardless of whether their source is management (usually in publicly listed, widely held firms) or controlling blockholders (in firms with concentrated ownership) being in control of the firm.[138]

Against this backdrop, it may be accurate to state that the minority shareholdings' threat to competition is not continually present or substantial.[139] Also, the line drawn between controlling and non-controlling acquisitions and the interpretation of the Horizontal Merger Guidelines in this regard becomes meaningful. That is, merger policy generally recognizes that unlike full mergers or controlling acquisitions where independent competition is "completely and permanently" substituted by common control,[140] partial minority acquisitions may not "necessarily or completely" eliminate competition between the parties to the transaction.[141] Said differently, "minority" ownership and "partial" control may prove problematic only in certain but not all market and corporate settings. This further suggests that when the ownership or control acquired is not complete, the *absolute* size of the ownership or control stake in isolation is not a good proxy for (the lack of) competitive harm. Indeed, the key driver of any

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[137] Luís MB Cabral, *Introduction to Industrial Organization* (MIT Press 2000) 38 and 40; Dennis W Carlton and Jeffrey M Perloff, *Modern Industrial Organization* (Pearson/Addison Wesley 2005) 17; Paul L Joskow and Alvin K Klevorick, 'A Framework for Analyzing Predatory Pricing Policy' (1979) 89(2) Yale Law Journal 213, 233–234, fn 50; Holmstrom and Tirole (n 52) 95–97; David Scharfstein, 'Product-Market Competition and Managerial Slack' (1988) 19 The RAND Journal of Economics 147.

[138] This is a two-way relationship in that product market competition affects the private benefits of control and *vice versa*. See Maria Guadalupe and Francisco Perez-Gonzalez, 'Competition and Private Benefits of Control' [2010] AFA 2007 Chicago Meetings Paper; Jacques Thépot, 'Private Benefits and Product Market Competition' (2013) 79 Recherches économiques de Louvain/ Louvain Economic Review 5 (emphasizing that managerial opportunism may not necessarily hurt firm value because part of the [oligopoly] rent is restored precisely due to such opportunism and "[p]rivate benefits generate costs which create in turn [cost and] price distortions on the product market and this may affect the profits of the firms in a positive sense since the firms adopt less aggressive strategies. In this context corporate governance rules are useless when the intensity of competition in the product market is strong enough.").

[139] Phillip E Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, vol 5 (3rd ed., Aspen Publishers 2009) ¶1203d, 288-289: "To state such possible anticompetitive effects [of partial stock acquisitions] is not to suggest that they will always or usually be present or substantial. […] Indeed, more lenient treatment might be defended on the ground that the competitive threat is weaker. Unfortunately, there is no formula that can describe the likelihood of such effects for the generality of cases or even for the particular case." This position is similar to the EU's in its 2001 Green Paper (n 101) concluding against a holistic change of the *ex ante* EU merger control regime to address non-controlling shareholdings. In its 2014 White Paper (n 102) however, the Commission proposed a more flexible "targeted transparency regime" for shareholdings above 5% that qualify as a "competitively significant link" in connection with "additional factors". Areeda and Hovenkamp's solution to the practical administrability concerns (difficulty in proving partial control or influence and quantifying anticompetitive effects) is a "structural presumption". Any partial interest above 5% is considered "substantial" and to be analyzed *as if* it were a full or controlling acquisition (assuming control), while creating a 5% *de minimis* safe harbor for thus (conclusively presumed) "passive" financial interests.

[140] ibid 289.

[141] US Horizontal Merger Guidelines 2010 §13.

effects on competition will be the industry structure in combination with the *relative* ownership or control stake in a rival firm.[142] At the same time, differences in the structure of merger control systems could be in principle justified, at least in part, based on the relative empirical prevalence and potency of the above two forces (vibrant market competition and strong corporate governance) and related institutional and organizational factors (e.g., varieties of capitalism, embracing to varying degrees a shareholder or stakeholder model of governance and corporate regulation, the strength and centrality of market forces and the relative proportion of firms with concentrated or widely dispersed ownership)[143] in each specific country or jurisdiction.[144]

Importantly, however, a sweepingly generous policy stance towards non-controlling partial acquisitions is not defensible in other industry (*concentrated markets*)[145] or firm settings

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[142] Timothy F Bresnahan and Steven C Salop, 'Quantifying the Competitive Effects of Production Joint Ventures' (1986) 4 International Journal of Industrial Organization 155, 166.

[143] Peter A Hall and David Soskice, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (Oxford University Press 2001); Maria Maher and Thomas Andersson, 'Corporate Governance: Effects on Firm Performance and Economic Growth' [1999] OECD, later published in Joseph A McCahery and others (eds), Corporate Governance Regimes: Convergence and Diversity (Oxford University Press 2002).

[144] Seen in this light, differences between merger control systems may be logically reconcilable. EU regimes using influence-based thresholds for merger scrutiny of minority acquisitions may be the result of path dependence and the relative predominance of concentrated ownership and control structures among continental European firms whereas U.S. merger law capturing any partial acquisitions above and beyond a criterion of control or influence may be understood given the strong presence of external capital markets, the historical absence of blockholders due to legal and political restrictions and the generally fragmented and diffuse ownership structure of U.S. publicly listed firms, factors which thus indicate the increased and realistic possibility that lower levels of shareholding may raise competitive concerns. The hybrid case of the UK regime with influence-based, although flexible, merger control thresholds can be seen as the combination of: i) currently dispersed ownership structures but earlier family-dominated firms with ownership and control structures closer to continental structures than to American ones, and also ii) the greater interaction with continental EU merger control systems. On the roots and potential persistence of country-specific ownership and governance patterns, see Roe, *Political Determinants of Corporate Governance* (n 136); Lucian Arye Bebchuk and Mark J Roe, 'A Theory of Path Dependence in Corporate Ownership and Governance' (1999) 52 Stanford Law Review 127. On the transformation of British large firms' ownership and control structures from concentrated to diffuse ones, see Mark J Roe, 'Political Preconditions to Separating Ownership from Corporate Control' (2000) 53 Stanford Law Review 539, 34–36. Of course, with the rise of large institutional investors especially mutual and index funds (the so called "Big Three"), transatlantic shifts may be observed complicating the familiar landscape. See Fichtner, Heemskerk and Garcia-Bernardo (n 25) (documenting the [common] ownership of the Big Three in the U.S. and finding that together they constitute the largest shareholder in 88 percent of the S&P 500 firms); Banal-Estañol, Boot and Seldeslachts (n 29) (finding overall that common investors have gained importance in Europe but non-common investors [governments, individuals, corporations] still remain important, particularly so in certain EU countries). See also Roe, 'The Shareholder Wealth Maximization Norm and Industrial Organization' (n 136), who suggests that greater skepticism towards the shareholder wealth maximization norm in continental Europe may be explained, among others, by their historically and comparatively less competitive product markets and more concentrated industry; and noting that changes in the relative product market concentration (e.g., towards more competitive structures) may increase demand or tolerance for shareholder primacy institutions in Europe. These ongoing shifts in markets and institutions could (partially) rationalize policy discussions in the U.S. to expand the reporting requirements under merger control and in the EU to potentially extend the scope of the EUMR.

[145] David Gilo, 'Passive Investment', *Issues in Competition Law and Policy*, vol 3 (ABA Section of Antitrust Law 2008) 1637–1639 (explaining that, in contrast to oligopolistic markets, under perfect competition there are no

(widely held public corporations)[146] where the afore-mentioned assumptions are not tenable either theoretically or empirically. Specifically, in oligopolistic markets with high entry barriers shareholding links between actual or potential competitors may have clear competitive implications as they are likely to lead to reduced output and higher prices.[147] Indeed, even acquisitions of *small and purely "financial interests"* ("silent minority shareholdings" or "passive investments")[148] in a rival are expected to alter the acquirer's incentives to compete - without any collusion, communication or control prerequisites - resulting in unilateral price-increasing effects. The reason is that the acquirer will take into account the financial interest (level of the non-controlling minority shareholding) in the rival while setting its market strategy and the effect its business decisions may have on the profits of the rival that the acquirer now stands to partially internalize as a return on its passive investment.

Therefore, "passive" investments in competitors in oligopolies in the corporate sense (no influence) are not really passive in the antitrust sense (competition effects):[149] the unilateral pricing effects may be quantitatively *lower* than in case of full or partial mergers,[150] but they are *always* predicted.[151] In this case, even absent any control or influence over the partially acquired rival the shareholding link induces the acquirer to competitive behavior that is less aggressive (reduced incentives to expand market share or lower price).[152] On the same logic but via different means (and unilateral theories of harm), this price-increasing effect may also be produced indirectly as the shareholding may diminish the intensity of competition by

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profits to share with a rival firm (via a passive investment) since "competition [drives] price all the way down to marginal cost"; the acquirer "places no weight" in its shareholding in the rival and there are no unilateral effects).

[146] As it will be explained in the next section.

[147] Reynolds and Snapp (n 94) 142: "the effects are purely structural: they arise not because of increased opportunities for collusion or changes in the concentration of control, but because the linking of profits gives each firm an incentive to compete less vigorously and adopt behavior more conducive to joint profit maximization than otherwise would be the case."

[148] All this alternative terminology refers to the same phenomenon: the holding of equity interests in a firm without any corresponding control rights (e.g., non-voting stock). See O'Brien and Salop (n 65); Gilo (n 67).

[149] See Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20) 16; Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 13–26.

[150] See Table 1 and 2 in O'Brien and Salop (n 65) 595, 599 (providing a set of economic formulas, based on modified HHI and PPI methodologies modelling Cournot homogeneous and Bertrand differentiated product markets, that quantify the unilateral pricing incentives flowing from different types of partial shareholding).

[151] Gilo (n 67) 5 ("Passive investment in a competitor, when there are only a few firms in the market, will almost always reduce quantities and raise prices, even when there is no ongoing cartel [tacit or explicit] in the industry.") 21 ("Acquisition of a competitor's stock [...] makes the stock acquirer share the competitor's ongoing profit flow. This profit flow is presumably always reduced by vigorous competition.").

[152] Gregory J Werden, 'Unilateral Competitive Effects of Horizontal Mergers I: Basic Concepts and Models', *Issues in Competition Law and Policy* (ABA Section of Antitrust Law 2008) 1328: "A critical insight is that a purely financial interest causes a unilateral anticompetitive effect, even though the interest does not provide a means to control or influence the rival's actions."

affecting strategic variables other than price or quantity. For instance, a non-controlling shareholding may reduce competition when firms compete in non-price dimensions (e.g., innovation or quality) and may also lessen incentives to compete with the partially acquired rival over geographic markets or entail reduced incentives for the acquirer to enter the incumbent firm's market in which it holds a financial interest.[153] In all these cases, existing or potential competitive constraints are effectively reduced.

Essentially the shareholding link similarly to a full merger may produce a softening of competition, due to the "internalization of competitive externalities"[154] it induces and the tempering of the natural "business-stealing"[155] instinct among competitors, to the detriment of consumers. These unilateral effects are purely "*structural*",[156] i.e., they depend solely on the partial or common owner's incentive structure and not on any further (governance or strategic) action by the acquirer or the partially acquired firm, and as such they are "probabilistic" in nature.[157] Another way to see this is that the financial interest in the rival creates an

[153] Gilo (n 67) 11 fn 25. On unilateral effects based on reduced innovation incentives, see Case M.7932 Dow/DuPont, Commission decision of 27 March 2017; Case M.8084 Bayer/Monsanto, Commission decision of 21 March 2018; Frazzani and others (n 28) 73–77; Anton and others (n 6); on market segmentation incentives and strategies, see Cases IV/33.440, Warner-Lambert/Gilette and IV/33.486, BIC/Gillette [1993] OJ L 116/21, para 30; Van Uytsel (n 40); on entry effects and loss of potential competition, see Newham, Seldeslachts and Banal-Estanol (n 3); Ruiz-Pérez (n 3).

[154] OECD, 'Antitrust Issues Involving Minority Shareholdings and Interlocking Directorates' (n 104) 24 ("through the acquisition of an equity interest in competitors, firms 'internalise' a competitive 'externality', namely the profits that firms generate for rivals as a result of unilateral output restrictions."); Gregory J Werden and Luke M Froeb, 'Unilateral Competitive Effects of Horizontal Mergers' in Paolo Buccirossi (ed), *Handbook of Antitrust Economics* (MIT Press 2008) 46 ("What makes the merger anticompetitive is that it internalizes the rivalry between the merging firms and thereby causes them to alter their actions."). On the "Cournot merger paradox" suggesting that since competition is eliminated between the merging parties and their output is reduced due to the merger, rivals come to benefit from this output restriction in the post-merger equilibrium because they expand and capture all private gains from the merger, and thus we can presume efficiencies (and an increase in total welfare) for mergers actually taking place, see respectively Stephen W Salant, Sheldon Switzer and Robert J Reynolds, 'Losses from Horizontal Merger: The Effects of an Exogenous Change in Industry Structure on Cournot-Nash Equilibrium' (1983) 98 The Quarterly Journal of Economics 185; and Joseph Farrell and Carl Shapiro, 'Horizontal Mergers: An Equilibrium Analysis' (1990) 80 The American Economic Review 107; Joseph Farrell and Carl Shapiro, 'Scale Economies and Synergies in Horizontal Merger Analysis' (2001) 68 Antitrust Law Journal 685. Partial cross-ownership and common ownership in rivals help rationalize and eliminate the paradox, see Gregor Matvos and Michael Ostrovsky, 'Cross-Ownership, Returns, and Voting in Mergers' (2008) 89 Journal of Financial Economics 391; Anton and others (n 4). This is because mergers given partial or common shareholding may be profitable overall for the shareholders of the acquiring firm that are also invested in the rival target firm (and as a result share in its profits and increased value), although the transaction as such may be unprofitable for the acquiring firm. This fact however may put into question the policy presumption about the private profitability of mergers in the presence of common ownership. See Azar and Tzanaki (n 10).

[155] Anton and others (n 6).

[156] Elhauge, 'Horizontal Shareholding' (n 10) 1270, 1274, 1302 ("The anticompetitive incentive created by this horizontal shareholding is purely structural, changing the price-setting incentive of each firm acting separately. [...] The basic anticompetitive effects arise from the fact that interlocking shareholdings diminish each individual firm's incentives to cut prices or expand output by increasing the costs of taking away sales from rivals.").

[157] Gilo (n 67) 31-33. As Gilo emphasizes, the anticompetitive effects of passive investment are "probabilistic in nature" as is prospective merger control review, which is conducted in the U.S. pursuant to an "incipiency test" that requires only "likely" adverse effects on competition; however, partial stock acquisitions that fall within the

"*opportunity cost*" to the acquiring firm of increasing its output or reducing its price.[158] If in turn the acquirer increases output or lowers price, it will divert customers and sales away from the target firm reducing the rival's profits and accordingly its own share in such profits as an investor.[159] Thus the acquirer will weigh the (own) additional profits versus the (internalized) opportunity costs of a potential price increase in deciding its strategy *given* the minority shareholding in the rival.[160]

In terms of quantitative impact, the output and price effects of a *single* small, non-controlling shareholding acquisition in a rival may be (the most) modest, compared to a full merger or a controlling acquisition.[161] However, the magnitude of the unilateral effects of *multiple* minority shareholdings on equilibrium output levels may be significant depending on a number of factors such as: i) the number of firms in the market (market concentration), ii) the number of firms linked (cross- or common ownership), iii) the level of the shareholding links (percentage ownership and control interests),[162] iv) the reciprocity of such links (mutuality of the

"solely for investment" exemption, require proof of an "actual" lessening of competition. Gilo critically notes that the unilateral effects and acquirer's strategic motives of such acquisitions are ignored by the case law (that in the absence of active influence over the target presume that the stock acquisitions are passive or harmless) while this is not justified by their economic analysis. Given the difficulty to prove actual effects that he considers "tantamount to a *de facto* exemption for all passive stock acquisitions", his recommendation is that "such stock acquisition[s] must be scrutinized under the main effects clause of section 7 of the Clayton Act. That is, there must be a full-blown investigation of market conditions to establish whether the stock acquisition, although passive, may (in the probabilistic sense) substantially lessen competition.". Elhauge, 'Horizontal Shareholding' (n 10) 1307–1308, on the other hand, suggests that empirical economic evidence showing (unilateral) anticompetitive effects may satisfy the "actual" effects test applied to presumably purely passive acquisitions, that "would negate the [substantive] passive investor exception and leave the horizontal shareholders subject to challenge under § 7 of the Clayton Act."

[158] O'Brien and Salop (n 65) 607. In a sense, the acquirer may in functional terms "inflate" its own "cost structure" via the partial shareholding acquisition.

[159] ibid.

[160] Frank Maier-Rigaud, Ulrich Schwalbe and Felix Forster, 'The Role of Non-Coordinated Effects in the Assessment of Minority Shareholdings' (2016) 14 Zeitschrift für Wettbewerbsrecht 246, 248, 253.

[161] O'Brien and Salop (n 65) 595 and 599.

[162] OECD, 'Antitrust Issues Involving Minority Shareholdings and Interlocking Directorates' (n 104) 25: "Another factor that affects the level of output reductions is the level of the equity ownership. The higher the level of ownership, the higher the incentives of the firms to lower their output given the output of the other firms.". However, control and the relative ability of the acquirer to over- or underrepresent its partial ownership stake in a rival may "disrupt" this linear, progressive relationship between the (nominal) level of ownership acquired and the degree of competitive effects (internalized rival profits). See O'Brien and Salop (n 65); Daniel P O'Brien and Steven C Salop, 'The Competitive Effects of Passive Minority Equity Interests: Reply' (2001) 69 Antitrust Law Journal 611, 625 ("If the acquiring firm is unable to control the target's use of its profits and potentially recapture its fair share of the higher profits it creates, the acquiring firm's incentives to sacrifice its profits in order to increase the profits of the target may be dampened somewhat. Where the seriousness of this problem can be demonstrated with credible evidence, the MHHIs and PPIs can be adjusted downward accordingly [i.e. discounting for non-control]."); Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) fn 68. O'Brien and Salop 624 suggest using a "control premium" measure to estimate the "appropriate discount rate" that "should reflect the reduction in value from not having control or influence over the earnings" and "could be obtained from market data on the magnitude of the control premium in equity acquisitions" (the price premium of voting over nonvoting stock in public companies). See also Doron Levit, Nadya Malenko and Ernst G Maug, 'The Voting Premium' [2020] ECGI Finance Working Paper 720/2021

internalization as in a full merger or a 50/50 joint venture),[163] and iv) the firm's (and manager's) objective function given the partial minority shareholding.[164] For instance, the unilateral effects may be of limited magnitude when "few firms are linked, and those links are small" but significantly greater "when the links include virtually all the firms in the market".[165] In the limit, "when ownership shares are at the maximum level which is feasible, given the number of firms in the market, the monopoly output level will result regardless of the number of firms".[166] This result suggests that in case shareholding links among competitors are pervasive in an industry, the number of firms operating in the market may indicate an oligopoly structure, but the competitive effect produced by those inter-firm linkages indicates a monopoly outcome, i.e., profit-maximizing firm operation equivalent to that of a monopolist.[167] On the other hand,

("the voting premium does not emerge from exercising control, but from influencing who exercises control. [...] common measures of the voting premium may underestimate the actual value of voting rights to their owners.").

[163] Reynolds and Snapp (n 94) 146–147: "equilibrium output would decline only 0.1 percent if one of ten equally sized and previously unlinked firms acquired a ten percent interest in one competitor. Were there but five firms in the market, the drop would be 0.2 percent. Were the firm whose stock was acquired to reciprocate, the drop in market output would be double the original."

[164] ibid 144 fn 11: "[it is assumed that] the managers of firm i maximize profits net of those going to competitors."; Rosati and others (n 26) 149: "The link between common shareholding and competition is related to a firm's objective function. As noticed by Azar et al. (2018), if a firm acts in the interest of its main shareholder, then what should be maximised is not the firm's own value but the shareholder's utility. With institutional investors, this corresponds to the maximization of their portfolio value. [...] O'Brien and Salop (2000) show that if a firm maximises its shareholders' portfolio profits (and not its own profit), industry markup is proportional to a modified Herfindahl-Hirschman Index (HHI), where the markup depends on the density of the network of ownership and control of the firms in the considered market."; Gilo (n 67) 24–25. Under separate ownership in oligopoly shareholders unanimously agree to maximize profits (firm value); however, as pointed out by Azar, Schmalz and Tecu (n 1) 1519: "Under imperfect competition, when shareholders hold more than one firm, they may disagree about the firm's objective (see, for example, Hart [1979]). A theory of shareholder preference aggregation is therefore necessary.". For different theories and assumptions regarding the firm's objective function in such cases, considering the relative influence or control of each shareholder over corporate decision-making and/or the degree of portfolio diversification among shareholders, see O'Brien and Salop (n 65); Rotemberg (n 73); Albert Banal-Estañol, Jo Seldeslachts and Xavier Vives, 'Diversification, Common Ownership, and Strategic Incentives' (2020) 110 AEA Papers and Proceedings 561; Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16); Newham, Seldeslachts and Banal-Estanol (n 3) 9–11. While firm and manager objectives in the presence of a purely financial stake ("passive" shareholdings) and a firm's controller's passive investment in a rival ("total" control) are not controversial (as the control structure is clear), the assumption of "proportional control" is more controversial because there is no well-established economic theory for partial ownership-partial control situations. See Azar and Tzanaki (n 10) fn 10; Joseph Farrell and Carl Shapiro, 'Asset Ownership and Market Structure in Oligopoly' [1990] 21 The RAND Journal of Economics 275, 286; O'Brien and Waehrer (n 12), 760."; Schmalz (n 51) 424 ("Whereas there is no consensus in the literature on how shareholder structure translates into control shares, a popular and intuitive assumption is that more votes correspond to more control. [...] This assumption is only valid in special cases, however"). Yet, "proportional control" may be justified in certain settings (absent large dominant shareholders in firm governance, and dual class stock or other asymmetric governance structures and given the corporate decision-making norm of "one share-one vote"). See n 74-75 above.

[165] Reynolds and Snapp (n 94) 146.

[166] ibid 147.

[167] ibid 147, 151–152 (suggesting the partial shareholding links effectively "close the gap" between the monopoly and standard Cournot market outputs); Azar, 'The Common Ownership Trilemma' (n 51) 283–285 (suggesting that perfect portfolio diversification across firms in an oligopoly, i.e., when all shareholders are the same and hold market portfolios, leads to the monopoly outcome absent managerial entrenchment). The MHHI introduced by Bresnahan and Salop and further developed by O'Brien and Salop and PPI or GUPPI methodologies aim precisely

countervailing factors such as welfare increasing efficiencies or managerial entrenchment may mitigate these anticompetitive effects.[168]

As a general matter, acquiring additional minority shareholdings in other rival firms in the market or (the controllers of) rival firms *simultaneously* holding non-controlling shareholdings in further competitors tends to reinforce the unilateral effects as the "*network*" of partial shareholdings (number of links) in the market will increase. Similarly, if the level of shareholdings held in horizontal competitors increases, the extent of "internalization" of rivals' profits among the linked firms (level of links) will also increase.[169] In addition, the acquisition of more symmetric links (symmetry of links) or the presence of more symmetric ownership structures in the industry corroborate such unilateral effects, by increasing the similarity in equity share positions held by each investor (same percentage shareholding or equal financial

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at capturing this increase in "effective" concentration and market power due to partial cross- or common ownership.

[168] See Azar and Tzanaki (n 10). It is also noted that while the overall welfare effects and the general equilibrium effects of common ownership within and across industries may be more mixed or nuanced, competition policy focuses on consumer welfare and competition enforcement is "market-specific" in that only efficiency gains within the same relevant market (and for the same group of consumers) may offset potential anticompetitive unilateral effects (consumer harm) found in that market. Efficiencies associated with common ownership (e.g., improved corporate governance, greater diversification, increased liquidity) may be substantial but are "out-of-market" efficiencies and as such generally not credited by antitrust enforcers. Besides, common ownership is unlikely to generate "merger-like" synergies. In addition, as Baker notes, within-industry diversification benefits are generally limited because stock and profits of rival firms in the same industry are highly positively correlated and if common ownership lessens competition, these diversification benefits are further reduced because the positive correlation in profits across firms increases. See Elhauge, 'Horizontal Shareholding' (n 10) 1303–1304; Baker (n 10) 227–231; US Horizontal Merger Guidelines 2010 §13 ("partial acquisitions usually do not enable many of the types of efficiencies associated with mergers"). Other welfare enhancing and competition relevant efficiencies (that exist in the presence of positive spillovers that may be internalized due to common ownership) such as cost reducing R&D investment and innovation, are unlikely to offset anticompetitive harm in industries with high concentration and low levels of spillovers, see López and Vives (n 6). On managerial entrenchment, see Azar, 'The Common Ownership Trilemma' (n 51) 286–293 (showing that managerial agency costs may mitigate but not completely eliminate the anticompetitive effects of common ownership).

[169] That is, both the scope and the amount of internalization will increase. See Maier-Rigaud, Schwalbe and Forster (n 160) 252; Roman Inderst and Stefan Thomas, 'Common Ownership and Mergers between Portfolio Companies' (2019) 42 World Competition 551, 558–559; Roman Inderst and Stefan Thomas, 'Price Pressure Indices, Innovation, and Mergers Between Commonly Owned Firms' (2019) 10 Journal of European Competition Law & Practice 572, 577–578. For a network analysis of common ownership links within the same industry see Albert Banal-Estañol, Melissa Newham and Jo Seldeslachts, 'Common Ownership in the US Pharmaceutical Industry: A Network Analysis' (2020) Barcelona GSE Working Paper 1216; José Azar, 'A New Look at Oligopoly: Implicit Collusion Through Portfolio Diversification' (PhD Dissertation, Princeton University 2012) chapter 4; José Azar, 'Common Shareholders and Interlocking Directors: The Relation Between Two Corporate Networks' in this special issue; for network-based indices for measuring common ownership, see Rosati and others (n 26) section 2.4; for network effects and inter-market spillovers due to common ownership links among portfolio firms in different industries, see Luca Enriques and Alessandro Romano, 'Institutional Investor Voting Behavior: A Network Theory Perspective' (2019) 1 Illinois Law Review 223; Romano (n 8).

interests) across the linked firms and the uniformity of portfolios held by all common investors (same shareholding positions held in the same set of firms).[170]

Estimating the "degree of internalization" of rivals' profits (i.e., the "*profit weight*") due to partial or common shareholding is a critical starting point for unilateral and competitive effects analysis.[171] This is the weight the acquirer (a firm or a firm's controller) places on the partially

[170] Therefore, both the symmetry in equity positions and investor portfolios across firms will affect and increase profit internalization, other things being equal. See Boller and Morton (n 20) 6-7 ("One interesting property of MHHI is its sensitivity to ownership symmetry. If common owners are exactly symmetric in holding the same percentage of the same set of companies, ownership is equal to control, and other owners [retail investors] are atomistic, then in this model the monopoly outcome is achieved. This is true whether the common owners each hold 2% or 20% of the competing companies.") 38-39 ("Ownership similarity is the 'symmetric' component of the profit weight [...] and will increase the objective functions of both firms in the industry. [...] To the extent that the asymmetric incentives of the profit-weight model [the relative shareholder concentration term] might be limited by legal restrictions or managerial behavior, we might instead expect the first-order effects of common ownership to propagate through investor similarity."); Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 9 and 18; for a "uniformity index" measuring the degree of uniformity of a portfolio and reflecting the investors' underlying strategies, e.g., passive indexing or active investment strategies, and the extent to which investors are 'atomistic' and concentrated in one firm or 'democratic' holding participation in all firms of the given market and all with equal shares, see Rosati and others (n 26) 44 and 80. In case of perfect symmetry (all shareholders hold the market portfolio), control drops out of the equation in that the objective function of the linked firms becomes the same (regardless of shareholder unanimity), see Azar, 'The Common Ownership Trilemma' (n 51) 283 and 285.

[171] Strategic or coordinated effects may also arise from purely financial interests without any additional control or explicit information exchange. First, this is because with a non-controlling shareholding acquisition at period one of a (multi-period) game, the acquirer alters its own incentive structure which in later periods may influence the rival's strategic (re)actions but without directly affecting the rival's profit or objective function, i.e., it does not alter the rival's incentives or opportunities (which could occur in the case with control). In an oligopolistic environment with repeated interaction among rivals in a non-cooperative game where history matters, the investment has "commitment value" and operates as a "sunk cost" that is to the benefit of the acquirer and "preempts" the rival's future choices. The strategic incentives of firms to engage in such "self-manipulation" (incentives to over- or under-invest) will largely depend on the nature of competition among the rivals (e.g., "strategic substitutes" or "strategic complements"). See Carl Shapiro, 'Theories of Oligopoly Behavior' in Richard Schmalensee and Robert D Willig (eds), *Handbook of Industrial Organization*, vol 1 (Elsevier 1989) 381–389; Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20). Such investments need to be observable to rivals to have strategic value, which is generally the case for shareholding acquisitions in public firms. See Gilo (n 67) 26, 28. Similar strategic and collusive effects can arise with non-controlling shareholdings in case of multimarket contact, see Jeremy I Bulow, John D Geanakoplos and Paul D Klemperer, 'Multimarket Oligopoly: Strategic Substitutes and Complements' (1985) 93 Journal of Political Economy 488. Philip M Parker and Lars-Hendrik Röller, 'Collusive Conduct in Duopolies: Multimarket Contact and Cross-Ownership in the Mobile Telephone Industry' (1997) 28 The RAND Journal of Economics 304. Furthermore, even a unilateral increase in cross-ownership holdings, by one firm but not by others, that results in a more asymmetric incentive structure will typically facilitate collusion. This is because an increased shareholding in rivals will generally make it "less attractive to deviate from a collusive price" and also "less feasible to escape punishments". In essence, both the incentives to collude and the incentives to deviate will be positively affected by the shareholding acquisition. This result is robust and depends precisely on the fact that such shareholdings are non-controlling, in contrast to full mergers (that if they are asymmetry-increasing, they make collusion less likely). In addition, analysis of cross-shareholdings based on Nash reversion punishment strategies can be misleading. On the above coordinated effects analysis, see Kai-Uwe Kühn, 'The Coordinated Effects of Mergers' in Paolo Buccirossi (ed), *Handbook of Antitrust Economics* (MIT Press 2008) 117–118 (who criticizes e.g., Malueg 1992 suggesting that non-controlling cross-shareholding links have ambiguous effects on collusion and noting that " [n]o such countervailing effects exist when we look at the whole set of equilibria."). See also Gilo (n 145); David Gilo, Yossi Moshe and Yossi Spiegel, 'Partial Cross Ownership and Tacit Collusion' (2006) 37 RAND Journal of Economics 81. Besides, unilateral effects analysis of minority shareholdings conferring influence will be relevant also for assessing the likelihood of coordinated effects theories of harm when

acquired rival firm's profits *relative* to its own profits.[172] In the case of common ownership, these weights are theoretically linked to and may increase (or decrease) with portfolio diversification, investor concentration and market concentration, i.e., as a function of ownership, governance and market structure.[173] A zero profit weight implies that firms operate independently (own profit maximization) such as when there are no common owners of competing firms (separate ownership).[174] Reversely, a profit equal to one means that the common shareholding has the same effect as if the linked firms were effectively merged (joint profit maximization).[175] That is, assuming firms act in the interests of their shareholders, each firm puts a weight of 1 on the profits of the other resulting in full internalization such as when there are perfectly overlapping and diversified common owners (perfect portfolio diversification).

Further, a profit weight exceeding one implies asymmetric internalization and inflated overlapping ownership incentives, i.e., incentives for shifting profits across the interlocked firms and thus expropriation of atomistic, undiversified shareholders, due to the outsized *relative control* ability of the overlapping owners ("tunneling" or private benefits of control).[176] This result arises in situations of partial ownership with "total control" as pointed out by O'Brien and Salop because the misalignment of ownership and control creates a "free-rider problem" and for this reason, distorted incentives and the least competitive outcomes.[177] It is

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coordination is the result of (partial) coordination among the linked firms only and not industry-wide (in which a case coordinated and non-coordinated effects are mutually exclusive) because the same factors inform the analysis, see Maier-Rigaud, Schwalbe and Forster (n 160) 254–255.

[172] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 4 ("the profit weights approach, which starts with the objective function of the firm, is the only one that offers a fully general path forward for empirical study of the common ownership hypothesis. [...] The theory goes back as far as Rotemberg [1984], is implicit in the MHHI measure of Bresnahan and Salop [1986], has been applied to cross-ownership in O'Brien and Salop [2000], and has seen application in various tests of the common ownership hypothesis."); Vives (n 8) 3 ("It is the weight of the profit of firm k in the objective function of the manager of firm j relative to the own profit of firm j. The relative concentration of ownership and control in firm k versus firm j is what determines the coefficient's value").

[173] Azar and Vives, 'General Equilibrium Oligopoly and Ownership Structure' (n 2) 3; Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 8–9.

[174] Or managers operate firms as if there were no common owners, e.g., because of managerial agency costs or because of compensation schemes based on own firm performance. See Eric A Posner, Fiona M Scott Morton and E Glen Weyl, 'A Proposal to Limit the Anti-Competitive Power of Institutional Investors' (2017) 81(3) Antitrust Law Journal 669, 681.

[175] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 4 ("a profit weight of 0 corresponds to what we expect in a world of profit-maximizing firms, and a profit weight of 1 corresponds to the weight that a merged firm places on an acquired subsidiary business [or, equivalently, full collusion]."); López and Vives (n 6) 2395–2396.

[176] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 21–24 and passim.

[177] O'Brien and Salop (n 65) 578–579 ("A higher price for the acquired firm leads to more sales for the acquiring firm. [...] if the acquiring firm's financial interest is small, it takes a free ride on the losses suffered by the acquired firm and borne mainly by others."). O'Brien and Salop analyze total control in case of partial *cross-ownership*, which implicitly assumes that the acquiring firm, which obtains total control over the rival acquired firm, is fully

also notable that while private benefits of control have typically been associated with concentrated ownership (large dominant shareholders),[178] now incentives for tunneling may also be found in widely held, public firm settings due to common ownership even in the absence of an outright controlling interest (minority common owners).[179]

The mechanics of this free-rider effect become more clear in case of acquisition of a purely financial interest in a rival by a firm's "controller"[180] as a passive investor.[181] Gilo has emphasized that the competitive effects of such passive investment by a *firm's controller* (be it a dominant shareholder or a manager[182]) are more serious and concerning when the

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and solely owned and controlled (100% ownership and complete control over own firm). As explained in section II.A and in what follows, the analysis of *common ownership* is different. First, common ownership only exists if the ownership stake held in at least one of the rival firms is partial ("concentrated" common ownership). Yet, in cases of "concentrated" common ownership as defined in this article, the common owner is able to adjust its stake in its own firm it controls (i.e., transform its position of "sole owner"-"sole controller" into one of "partial owner"-"sole controller") rather than in the target firm that it is assumed not to control. This means that concentrated common ownership may in effect entail partial ownership of *both* commonly held firms, *at the option* of the single common owner. As such, it is the reverse scenario to O'Brien and Salop's above partial cross-ownership example where the common owner may only adjust its stake in the target firm it controls but partially owns whereas ownership and control over the own firm is complete by assumption (see also n 180 below). Second, in "diffuse" common ownership cases the ownership stakes are *by definition* partial in *both* (or all) commonly held rival firms. Hence, the underlying incentives are very different.

[178] Alexander Dyck and Luigi Zingales, 'Private Benefits of Control: An International Comparison' (2004) 59 The Journal of Finance 537 (finding that better legal protection of minority shareholders and more intense product market competition are institutional variables associated with a lower level of private benefits of control).

[179] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 23–24 ("tunneling is not typically believed to occur in the U.S. for two reasons: strong investor protections that facilitate healthy financial markets [Porta, Lopez-De-Silanes and Schleifer, 1999] and the near-universal absence of a controlling interest in publicly-traded firms, as the U.S. is the land of the 'widely-held' firm [Berle and Means, 1932]."). In the case of common institutional ownership, the tunneling effect is driven by the relatively asymmetric partial ownership incentives, relative control is the enabling/ enforcement mechanism due to the absence of any large controlling shareholder(s) and the fragmentation of the retail share of passive shareholders.

[180] This scenario corresponds to the "concentrated" variety of common ownership with a *single* common owner having parallel interests in two rival firms, with no control over the one (passive investment) and total control over the other (either full control due to 100% ownership as in a full merger case, or total control, usually >50% ownership and majority control). As explained in section II.A, common institutional ownership is different because there are *several* common owners (typically minority investors with <50% ownership), possibly with *de facto* control, in all rival firms. As such, this latter scenario may fit the paradigm of "diffuse" common ownership.

[181] This is because the control effect is isolated and focused on one firm over which the investor has clear control ability while the cash flow rights in the passively invested firm remain constant.

[182] Gilo (n 67) 6: "Firms can replicate this anticompetitive effect by including components in their executive compensation packages that are positively linked to industry or competitors' profitability. Such compensation arrangements are analogous to the case in which a controller of a firm holds a stake in a competing firm.". Managerial compensation contracts may be another channel through which common ownership can influence product market competition. On unilateral effects theories and evidence, see Antón and others (n 7) (noting also that it is strategic product market competition and within-industry diversification that drives their model, which does not require any communication or coordination but merely that top managers know and respond to their own incentives); cf Rajesh K Aggarwal and Andrew A Samwick, 'Executive Compensation, Strategic Competition, and Relative Performance Evaluation: Theory and Evidence' (1999) 54 The Journal of Finance 1999 (showing that "strategic interactions among firms [under separate ownership] can explain the lack of relative performance-based incentives in which compensation decreases with rival firm performance"). On coordinated effects, see Werner Neus and Manfred Stadler, 'Common Holdings and Strategic Manager Compensation: The Case of an Asymmetric Triopoly' (2018) 39 Managerial and Decision Economics 814; cf Giancarlo Spagnolo, 'Stock-Related Compensation and Product-Market Competition' (2000) 31 The RAND Journal of Economics 22.

controller's stake in its controlled firm is smaller (e.g., less than full ownership while still remaining controlling)[183] because of a "*dilution effect*": by diluting its stake in the firm it controls, the controller effectively commits to place relatively less weight on its controlled firm and thus more weight on its passive stake in the rival.[184] Therefore, assuming the controller takes its own interests into account while running the firm, it will induce the firm to maximize its own profits from its (partial) controlling interest in the firm it controls (excluding the interests of non-controlling shareholders) plus its financial interest in the rival.[185] Although this may be seen as an "agency cost" in firm governance, other shareholders may also benefit from the higher supracompetitive profits even in the case without collusion and therefore, they are not expected to oppose such behavior by the firm and its controller.[186] It is important to note that the controller, precisely because of being in a position of sole control, may "self-manipulate"[187] its ownership stake in the controlled firm to the level of its choice considering the profit maximization calculus that is most beneficial to itself (rather than the company as a whole). Thus, by diluting its stake and altering its own incentives the controller may directly

[183] Gilo (n 67) 4 and 23.
[184] The key characteristic of this dilution effect is that it can *disproportionately* affect the degree of profit internalization from the controller's parallel stakes in the firm it controls and its rival (common ownership). In contrast, when it is the firm itself that invests in its rival (cross-ownership) and thus the firm's controller only has an indirect stake in the rival via the own firm, "the controller's stake in the firm it controls will be irrelevant" as the dilution of its indirect stake in the rival will always be proportionate. ibid 22–23.
[185] ibid 6 fn 25 and 24.
[186] ibid 24–25 (noting that as this "agency cost" tends to benefit minority shareholders, "it would be difficult to claim that [the controller] is in breach of its fiduciary duty toward [the controlled firm]."). If fiduciary duties are seen: i) as negative property claims (a form of residual claim) by non-common owners vis-à-vis the positive property rights of common owners; and ii) as default rules for allocating property rights (and managing conflicts) that shareholders can consent to amend or waive with the aim to increase profitability, see Jonathan Macey, 'Fiduciary Duties as Residual Claims: Obligations to Non-Shareholder Constituencies from a Theory of the Firm Perspective' (1997) 38 Boston College Law Review 595; then there is indeed bargaining space for achieving an amendment of the firm objective in a way that is mutually beneficial for both groups of shareholders and also for the corporation (Pareto outcome). Such agreement is "self-enforcing", see LG Telser, 'A Theory of Self-Enforcing Agreements' (1980) 53 Journal of Business 27 as the division of profits is set (and internalized by shareholders as per the objective function) and thus cannot be undermined by opportunistic behavior of shareholders while managers are expected to be on board (due to compensation schemes or career concerns) since all shareholders are better off. Also, unlike (ongoing) tacit collusion in the market based on partial shareholding and "Coasian joint control" (full joint profit maximization by the managers of the linked rival firms) that could be unsustainable due to conflicting incentives and transaction costs, see O'Brien and Salop (n 65) 582, this is one-off and no direct influence or outside "enforcement" is needed since interests are aligned (so if undiversified shareholders are also better off they will agree to the new objective function and stick to that agreement, otherwise we would expect them to sell out). Further, any coordination problems among shareholders inside the firm are solved due to the presence of a single common owner that is also the dominant shareholder and can credibly implement the "agreed" objective function. Competition effects based on such (internal to the corporation) agreement are still unilateral.
[187] Shapiro (n 171) 385.

influence its own profit function (and its controlled firm's objective function[188]) and indirectly competitive outcomes.[189]

What is striking, therefore, in this case is that the "*controller effect*" is not in fact an effect due to control over the target rival firm in which the controller is passively invested but only due to control over the "own" firm where the controller is the dominant shareholder.[190] In other words, it is not the result of active influence or coercion on the rival firm but a "*self-commitment*" by the controller-common investor to compete less aggressively itself made "credible" by the control mechanism (given that the controller has sole and total control over the own firm) which may in turn reassure rivals and induce them to compete less aggressively[191]: a way of giving "hostages" (bonds) to support "exchange" (by acquiring

[188] This means a shift from total firm value maximization to maximization of the controlling shareholder's profits (single common owner that is thus transformed from a "sole owner" to a "partial owner" over its own solely controlled firm). Another way to see the standard economic objective function of the firm (that all shareholders unanimously agree upon under the "Fisher Separation Theorem" in perfect competition) is that maximizing total firm value effectively safeguards against the "dilution effect" produced by a firm's controller (proportional distribution of corporate profits among shareholders). As explained, a deviation from this principle need not be constrained by corporate law fiduciary duties on the controller as both the controlled firm and its minority shareholders may come to share in the higher (firm and industry) profits produced in an oligopolistic market setting. Given that the theorem is inapplicable under conditions of imperfect competition and non-separate ownership, the realistic question of an "updated" objective function of the firm arises with common ownership. Azar suggests such a theory of the firm, which also "provides a possible microfoundation for O'Brien and Salop (2000)'s indices as the outcome of a competition for corporate control among potential managers", see Azar, 'Portfolio Diversification, Market Power, and the Theory of the Firm' (n 7) 1–2 (developing "a tractable model of firm behavior in which the objective of the firms is determined endogenously by the outcome of majority voting by their shareholders" and "firms act as if they maximized a weighted average of shareholder utilities."); on the need for revision of the objectives of the firm in light of common ownership and testing alternative theories, see also Antón and others (n 7).
[189] Cf n 171 above.
[190] cf O'Brien and Salop (n 65) 578–579. Importantly, Gilo's controller does not use control to *force* a higher price in the rival (as O'Brien and Salop's free riding example; in Gilo the investment in the rival is passive) but rather to *commit* not to undercut price itself that may in turn induce the rival not to undercut its price also. That is, the control mechanism here works not to make the target less aggressive but oneself as a controller of the firm one controls! The driver is the relative financial interest of the controller-common investor in the two rival firms. Of course, if the controller has control ability over more linked firms, it may choose to adjust its stake in any of the firms in a way that is privately profitable to itself. This latter case of a multi-firm controller is what O'Brien and Salop analyze with the difference that control over the focal (own) firm is full and fixed (assuming that the firm controller is a "sole owner" with 100% ownership and control); in this case, only control over the target is adjustable but this obscures the fact that the controller may manipulate its own profit calculus that is the principal driver of the anticompetitive effects. Essentially, O'Brien and Salop study the reverse scenario from Gilo: in both cases the relative profit ratio creates the distortions, but the identity of the firms is reversed (i.e., for O'Brien and Salop, the stake in the target rival firm is small(er) rather than the controller's stake in the own controlled firm is small). In other words, the type of partial ownership studied by each is different: O'Brien and Salop analyze cross-ownership whereas Gilo examines (one variety of) common ownership. See n 177 above. This however also leads to reversed policy prescriptions: while O'Brien and Salop suggest that increasing the stake in the rival firm may be competitively beneficial as it reduces the free-rider effect, Gilo cautions that any dilution of the controller's own stake in the controlled firm may strengthen the anticompetitive effect (because it reduces the relative weight in the profits of the controlled firm and simultaneously increases the weight it places on the rival's profits) or reversely that an increase in the controller's stake in the own firm will be pro-competitive. All these policy prescriptions aim at reducing the asymmetry between the financial interests of the partial owner in the rival firms.
[191] Gilo (n 67) 5.

parallel investments in rivals).[192] While coordinated effects (tacit collusion) may (or may not) follow,[193] the effect can be purely unilateral in a static oligopoly setting (e.g., refraining from price-cutting) and all actors involved may benefit by the softening of competition (non-controlling shareholders of own firm and the firm as a whole, rival firm and its shareholders, and potentially other competitors or the firm's managers to the extent they are partially compensated based on industry or rivals' profits as well as own firm profits). As a result, this effect and mechanism may be mutually beneficial for the linked rival firms albeit presumably to differing degrees. The competitive outcome may be more collusive (market power), but the mechanism is unilateral (individual behavior).

B. Corporate governance and transmission mechanisms

The distinction between concentrated and diffuse common ownership rationalizes the operation of different "potential mechanisms linking common ownership to anticompetitive effects" for different types of common owners from the perspective of corporate governance.[194] Professors Scott Hemphill and Marcel Kahan propose a useful taxonomy of such mechanisms differentiating between: i) "conflict" and "consensus" mechanisms; ii) "targeted" and "across-the-board" mechanisms; iii) "active" and "passive" mechanisms.[195] In this framework, concentrated common owners would be expected to follow "active" mechanisms given their parallel but presumably "asymmetric" ownership structures linking industrial competitors and their likely "targeted" governance and engagement strategies focusing on specific firms that could create conflicts among individual firms and their shareholders. On the other hand, diffuse common owners will typically employ "passive" mechanisms, either targeted ("selective

[192] On the analytical differentiation between "credible commitments" and "credible threats", see Oliver E Williamson, 'Credible Commitments: Using Hostages to Support Exchange' (1983) 73 American Economic Review 519. In this setting, control over the rival is a credible threat (conflict) whereas control over oneself is a credible commitment (incentive structure). The shareholding acquisitions by increasing the opportunity cost of competing commit the common investor to reduce the risk of opportunistic behavior.
[193] Boller and Morton (n 20) 7 ("Static Nash competition in prices or quantities is a central element both in recent literature as well as in earlier work by Bresnahan and Salop [1986] and O'Brien and Salop [2000]. These models do not incorporate tacit collusion. However, the possibility of common owners enabling tacit collusion was made long ago in the literature [Malueg, 1992]. Gilo et al. [2006] explicitly consider the ability of common ownership to facilitate tacit collusion in a supergame. [They] show that the cross-holdings of common ownership expand the range of discount factors for which tacit collusion can be sustained. In their framework, common owners introduce incentives to increase the patience of managers who might otherwise deviate from a collusive equilibrium.").
[194] Hemphill and Kahan (n 12) 1400: "the empirical literature has paid insufficient attention to systematic differences in the incentives of different investor types. For example, in any analysis of anticompetitive effects advisors that mostly manage index funds should be distinguished from other [common owners]."
[195] ibid 1399.

omission") or general ("across the board"),[196] that attenuate conflict and push towards consensus among different classes of shareholders (common versus non-common owners). This is a natural corollary of the parallel and "symmetric" ownership structures and "portfolio" investment and governance strategies of diffuse common owners such as index funds with "*similar*" and "*stable*" holdings across multiple competitors over a *long-term* time horizon. [197]

The distinction put forward in this article also produces novel insights as to the plausibility of potential conflict- or consensus-based mechanisms of anticompetitive common ownership. All common owners are assumed to favor portfolio value maximization (PVM). One the one hand, conflict manifests when PVM strategies potentially run counter firm value maximization (FVM) strategies of undiversified shareholders of individual firms. On the other hand, consensus occurs when the PVM and FVM objectives and strategies of common and non-common shareholders effectively coincide. Thus far, law and economics scholarship has suggested that any unilateral anticompetitive effects of common ownership are implausible because the rely on "*firm value decreasing*" strategies and so they collide with corporate law principles and fiduciary duties.[198] Coordinated effects - in which case PVM and FMV may be both realized without conflict - are plausible but remain empirically untested to date.[199] Indeed, this analysis would be correct when referring to "concentrated" common ownership in light of

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[196] Hemphill and Kahan (n 12)1400 ("A mechanism that we call 'selective omission' is consistent with both theory and empirical evidence [of common ownership's anticompetitive effects]. A [common owner] engaged in selective omission presses for firm actions that increase both firm value and portfolio value, while remaining silent as to actions where the two conflict. Aside from selective omission, some across-the-board mechanisms may plausibly be employed, but substantial empirical evidence of their use is currently lacking."), 1409 ("The most commonly mentioned across-the-board mechanism is the structure of executive compensation—in particular, whether managers are paid for performance and thereby encouraged to compete aggressively in order to maximize firm value."), 1438-1441 ("across-the-board passive mechanisms and selective omission, which merely involve a failure to take actions that would increase the value of a portfolio company, do not create material fiduciary-duty risks. [They] pose a lower risk of detection—their implementation requires no illicit communications or arrangements with the targeted firm—and a lower risk of sanction."). But see also Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 39–43 (suggesting that "across-the-board" mechanisms have been empirically tested).

[197] Hemphill and Kahan (n 12) 1400.

[198] If so, the extent to which "common ownership leads to managerial behavior that violates the fiduciary obligation and harms competition" is an empirical question that is not adequately answered yet. O'Brien and Waehrer (n 12) 734, 765–766.

[199] Rock and Rubinfeld, 'Common Ownership and Coordinated Effects' (n 20); Hemphill and Kahan (n 12). This claim is based on the premise that existing empirical literature on common ownership employs measurement tools such as the MHHI that are conceptually linked to conflict mechanisms, and therefore coordinated effects are not captured by empirical estimations of anticompetitive effects. But see Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 35–39 (refuting Hemphill and Kahan's theoretical claim and further suggesting that i) consensus effects have been empirically proven and ii) even if more accurate measurement methods were available this would not negate the empirical results of studies based on the MHHI but that those would predict prices even better).

the "asymmetric" *internalization mechanisms* and incentives of common owners illustrated in the previous section and the "active" *transmission mechanisms* discussed in this section.

The critical insight arising from this article, however, is that anticompetitive strategies of "diffuse" common ownership may be in the interest of both PVM (common) and FVM (non-common) shareholders in case of either unilateral or coordinated effects under certain circumstances. The precise nature of the anticompetitive effects will largely depend on the structure of the market and the characteristics of other rival firms (e.g., oligopolistic market with high concentration, symmetric common ownership links in all or most competing firms, presence of a "maverick" that is commonly owned or not). Consensus may arise given the congruent preferences of common owners (PVM shareholders) and individual firms (and their FVM shareholders) both favoring and benefiting from collusion and less aggressive competition.[200]

If, for instance, diffuse common owners have symmetric stakes in (almost) all rivals in oligopoly, then "market-wide" coordination may be possible. If, however, the "industry maverick" is not commonly held by the diffuse common owners, then collusion may not be sustainable,[201] yet unilateral effects may still be plausible. As described in the previous section, in this scenario consensus may be forged by the congruent preferences of PVM and FVM shareholders of commonly owned firms that is built inside the firm: common and non-common shareholders agree on the "altered" objective function of the firm (PVM) as it ultimately operates to the benefit of both.[202] In this setting, the anticompetitive harm may flow from common owners merely failing to adopt "*firm value increasing*" strategies in particular

[200] Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 35–36: "It is always the case that all firms in all markets (and thus all shareholders of those firms) would collectively benefit if the firms could all simultaneously lessen competition among themselves in order to increase prices and profits. But with separate ownership, economic models show that (absent agreement or successful coordination between the firms) each firm has individual incentives to undercut such noncompetitive pricing, and thus they will compete even though they collectively would be better off if they all competed less. The higher the relative influence of the horizontal shareholders, the more those firm incentives to compete are lowered, because competition reduces the horizontal shareholders' profits in rival firms and thus increases the firm's effective marginal cost of taking sales from those rivals. [By contrast, l]ess concentrated non-horizontal shareholdings will thus predictably make consensus effects more likely. [...] Hemphill and Kahan wrongly assume instead that consensus effects must be based on horizontal shareholders' ability to orchestrate coordination across firms. [...] Instead, they depend on the fact that horizontal shareholding increases the costs to each firm's shareholders of competitively gaining sales, which in turn lessens the incentives of each firm's managers to compete aggressively. Because this lessens competition at both firms simultaneously, it increases profits at both firms and benefits non-horizontal shareholders as well.".

[201] Gilo (n 145) 1640, 1646 (analyzing passive investment in cases of partial cross-ownership and concentrated common ownership and the likelihood for coordinated and unilateral effects in the presence of a maverick firm in the industry). The same principles apply, even more forcefully, in cases of diffuse common ownership.

[202] See n 186 above and surrounding text.

firms.[203] Conflict (and agency costs) is therefore more apparent than real. In any case, individual firms also prefer less competition, but "diffuse" common ownership makes anticompetitive strategies leading to unilateral or coordinated effects plausible given the "symmetric" internalization and "passive" transmission mechanisms associated with it (i.e., the incentives and ability of diffuse common owners to act upon their PVM objectives and alter competitive outcomes on a portfolio-wide basis).[204] In other words, diffuse common ownership may partly enable firms and their shareholders to escape the "prisoner's dilemma" game in their interaction in the market and the "free-rider" problem in corporate governance, which could in turn give rise to coordinated or unilateral anticompetitive effects depending on the surrounding market conditions.

It follows from the above that *diffuse* common ownership based on *passive* governance mechanisms operates and may potentially impact product market competition in a completely novel manner. The driver of the anticompetitive effect is strategic competition (oligopolistic market interactions) and the opportunity cost created for oneself by acquiring partial or common shareholding (*selective passivity*) – a form of self-committed profit sharing with rivals – and not primarily the quality of governance and the level or cost of active engagement (active influence).[205] Thus rationally and predictably, although this strategy may entail suboptimal

[203] Hemphill and Kahan (n 12) 1427: "[common owners] that are engaged in selective omission generate an anticompetitive effect because they selectively fail to push certain firm-value-increasing actions that would be procompetitive, rather than because they actively push the firm to implement firm-value-decreasing measures that are anticompetitive (as in a targeted active mechanism). Only a [common owner]'s failure to push for firm-value-increasing procompetitive actions is a source of conflict between it and an [non-common owners].".

[204] Enriques and Romano (n 89) 17–18: "These [empirical] studies suggest that at least in some instances and some markets, institutional investors might prefer a lower level of competition among firms in their portfolios because aggressive competitive behavior on the part of one of their portfolio firms would negatively affect other firms in their portfolio. [...] On the one hand, each of the firms may independently prefer a lower level of competition, in which case common ownership is merely a way to facilitate coordination. This puts a weak competition strategy in the (privately) "optimal conduct" quadrant of Table 1, that is, the preferred one in terms of both firm value maximization and portfolio value maximization. Importantly, [...] this conduct is optimal merely from the perspective of the firms' shareholders, but it is not socially optimal. [...] On the other hand, suppose that one particularly strong and innovative firm within the relevant industry would be able to maximize its own value by competing aggressively. Its PVM shareholders might still prefer a lower level of competition in order to benefit all of their portfolio companies operating in the market. If they were to prevail, the firm's conduct would be situated in the PVM-only quadrant.". Therefore, consensus and the nature of competitive effects may depend on the potential alignment of FVM and PVM objectives and strategies in light of other surrounding circumstances in each specific case. For instance, in highly dynamic or innovative industries any anticompetitive unilateral or coordinated effects of diffuse common ownership may be less likely to arise or be sustainable.

[205] Lucian A Bebchuk, Alma Cohen and Scott Hirst, 'The Agency Problems of Institutional Investors' (2017) 31 Journal of Economic Perspectives 89; Lucian A Bebchuk and Scott Hirst, 'Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy' (2019) 119 Columbia Law Review 2029. Bebchuk and coauthors suggest that an agency-costs analysis of index funds shows strong incentives to "underinvest" in stewardship and also to "defer" excessively to corporate management. They conclude that institutional investors have insufficient incentives to exert influence over portfolio firms to increase firm-specific value and therefore, anticompetitive effects of common ownership through an "active influence" mechanism are implausible.

management performance (some *agency cost*), this may be tolerable as the overall value to common owners from this ownership and institutional structure is presumably higher:[206] the effect (gain) of less competition (rents from suboptimal industry performance) may be on balance of greater significance, in qualitative and quantitative terms, than any governance and agency frictions (cost).[207]

The argument is reinforced considering the portfolio-based business model of large asset managers and in particular index funds.[208] A portfolio perspective of governance together with

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However, it has been argued in response that: (i) "passivity" does not exclude competitive harm, and that (ii) "index funds incentives" do not prevent anticompetitive effects. See Antón and others (n 7) 27 ("it is precisely the *lack of* intervention when setting high-powered incentives for top managers [or 'excessively deferential treatment of managers,' as Bebchuk and Hirst (2019) call it] that leads to less competitive product market behavior. In other words, there is no paradox between favoring more effective engagement by institutional investors and being concerned about the anticompetitive effects of common ownership. Weak governance and weak competition are jointly optimal for common owners."); Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 49–72 ("what matters is *relative* shareholder influence (the incremental effect of common owners relative to other shareholders), not whether shareholder effort is *fully* optimal" [compared to the incentives of a sole 100% owner]). Indeed, along this line of argument and as this article points out, Bebchuk et al.'s analysis would be the right benchmark for the case of "concentrated" common ownership but not useful or an appropriate benchmark for analyzing "diffuse" common ownership that is not primarily driven by (sole) control. See n 72 and 92 above and surrounding text.

[206] Similarly, the "separation of ownership and control" in large corporations, albeit it creates positive monitoring costs and conflicts between principals-owners and agents-managers, is not inefficient if these are offset by other organizational benefits. Thus it is a rational choice of incorporating owners that opt to delegate decision-making power. What matters for the owners-principals and residual claimants of corporate profits is the overall efficiency of this organizational scheme being superior to others (e.g., partnership, sole proprietorship etc.). See Carlton and Perloff (n 137) 17; Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 7 fn 10. See also Roe, 'Political Preconditions to Separating Ownership from Corporate Control' (n 144) 15 and 38.

[207] Eric A Posner, 'Policy Implications of the Common Ownership Debate' [2020] Antitrust Bulletin Symposium on Horizontal Ownership Concentration, forthcoming 5: "AEGS point out that blunter incentives both reduce incentives to cut cost and to compete, and from the common owner's standpoint, the gain from less competition may exceed the cost from less effort—especially as the underlying product market becomes more concentrated. Thus, even a relatively passive common owner [...] would produce the common ownership effect of less competition in product markets." See also Mark J Roe, 'From Antitrust to Corporation Governance? The Corporation and the Law: 1959-1994' in Carl Kaysen (ed), *The American Corporation Today* (Oxford University Press 1996) 121–122, 125 and passim, who sheds (historical) light on the tradeoff between product market competition and managerial slack – "private profits of oligopoly" versus "private (and public) costs of poorly organized firms". Shareholders (and other corporate actors) were to benefit from the oligopolistic rents that outweighed any increased agency costs due to lesser competition. At the same time, oligopoly was said to be a source of managerial underperformance in a double sense: i) suboptimal competition induced less management effort in concentrated markets, ii) suboptimal operation of the market for corporate control disciplined underperforming management less (or not at all).

[208] Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 50–58. Elhauge forcefully argues that for diffuse common owners, namely index funds, (1) the incremental costs of lessening competition are generally zero or negative, and that (2) even when effort costs are positive, they are small relative to the anticompetitive gains. First, as Bebchuk et al. (n 205) note, index funds are typically involved in "standard" (mandatory by law) governance activities such as voting that "do not involve additional cost" or influence effort ("mandatory governance"). Second, index funds may spread any such costs across all their portfolio companies and "across a long time horizon" e.g., by applying any decision on how to vote on executive compensation across all commonly owned corporations ("portfolio-based governance" and "across-the-board mechanism"). Third, although urging firms to increase their individual corporate value and become more competitive compared to other rival firms by engaging in "firm-specific stewardship" is likely to entail positive effort cost and conflicts with the incentives of

a focus on lessened oligopolistic competition changes the analysis in two important respects. First, concentrating only on individual firm profits and governance activities (or effort costs) misses out on the *portfolio-wide stewardship* initiatives of index funds that may rationalize their likely interest and ability to pursue higher anticompetitive gains in oligopolistic industries (e.g., by means of "across-the board" mechanisms such as executive compensation or by "selective" interventions or engagements with management and due to economies of scale) compared to their aggregate governance and engagement costs across all of their commonly owned rival firms.[209] Second, such narrow analysis deflects attention from the critical point that pushing firms to *compete less across the board*, rather than more on an individual basis, in an industry may involve less or negative effort costs, rather than positive ones (e.g., by voting for executive compensation contracts tied to rival or industry performance that induce reduced managerial effort across the board, or by selectively failing to promote procompetitive, cost-reducing yet rivalry inducing strategies in individual firms).[210] In this light and given the portfolio-based model of diffuse common owners, less competition and suboptimal governance are not inconsistent claims conceptually.[211] The "portfolio-wide" perspective of governance highlights the new risk to competition posed by diffuse common ownership,[212] while the "firm-specific" perspective illustrates the traditional principal-agent problem in corporate governance.[213] The upshot of this "dual" governance perspective is that the presence of any

index funds that are interested in the profits of all rival firms in their portfolio, by engaging in governance activities on a "portfolio-wide basis", index funds may not only save any costs of effort and influence ("economies of scale") but more importantly, may induce rival firms and their management to increase the total portfolio value of diffuse common owners by lessening competition between them (interest in total portfolio and industry profits). Fourth, the total increase in corporate value that index funds may induce for their entire portfolio of companies, instead of "only by doing a time consuming individuated analysis of each portfolio company", and the portion they may reap through fees they charge and are compounded annually, is likely "massive" compared to any costs.

[209] ibid 45–46 ("[t]he fact that the Big Three have powerful incentives to influence corporate conduct does not mean they have any incentive to inefficiently expend unnecessary costs to do so. [...] Such efficiency does not show a lack of influence."); Coates (n 25) 2 ("conventional [agency-cost] analyses [of governance] mistakenly assume that index funds must make significant expenditures to influence companies and neglect economies of scale in exercise of power. They also neglect the power of control threats to discipline [corporate management]."), and 15-17 (discussing the particular channels through which index funds engage in governance activities in a way that minimizes cost and maximizes influence, e.g., by forming general policies or selective engagements on governance issues).

[210] Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 54 and 57 ("[the agency-cost analysis] is likely true for efforts to encourage procompetitive cost reductions at a specific firm, but it is not true for figuring out a general strategy for voting or setting executive compensation across all the firms in a way that increases portfolio value by lessening competition.").

[211] Antón and others (n 7) 27; Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 53.

[212] But note also the potential pro-social benefits of portfolio-based index fund stewardship, besides any anticompetitive risks. See Coffee (n 89) 3 ("the flip side of this [literature] is that institutions can use their collective power to induce their portfolio companies to behave in a more socially responsible manner (at least when it will benefit their portfolio on a net basis) [...] by forc[ing] the internalization of the externalities by the [portfolio] firms causing them.").

[213] Bebchuk, Cohen and Hirst (n 205); Bebchuk and Hirst (n 205).

(residual) managerial agency costs ("managerial entrenchment") in cases of diffuse common ownership does not fundamentally change the above exposition or fully eliminate the anticompetitive risk.[214]

The key insight from the preceding analysis is that the appropriate benchmark here is not perfect competition and a "no agency cost" - "sole owner" (100%) paradigm,[215] in which case by definition competitive harm is impossible. Rather, under imperfect competition and partial overlapping ownership, the "*profit sharing*" force drawing together the linked firms and their shareholders (rivals' profit internalization) may be stronger than and dominant regardless of any "*cost sharing*" due to ownership dilution (<100%) and partial control (free riding on partial owner's good governance efforts and managerial agency costs). With less unpredictable value changes (profits)[216] given the internalization caused by the common ownership links in oligopoly, the partial common owners may be safe in the knowledge that not only they need not exert the same effort competing (less aggressive competition) but also engage in the governance of particular firms (suboptimal shareholder governance) as what matters most is the supracompetitive industry profits and total portfolio profits than any firm-specific costs or gains.

This model may fit well index investment funds (with a minimum cost governance model) and diversified shareholders across firms who rationally diversify their stock portfolios[217] (*"passive" diffuse common ownership*). Notably, in this case both the ownership and the

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[214] See Azar, 'The Common Ownership Trilemma' (n 51) 286–293; Azar and Tzanaki (n 10) 41–42.

[215] Coates (n 25) 2 ("While such a ['sole owner'] benchmark may be useful, it can be misleading. Indexed owners are typically displacing not sole owners but dispersed owners -- individuals and institutions with incentives that are as weak or weaker than those of indexed funds. Against that real-world benchmark, indexation represents a significant shift towards more shareholder power, not less."), 17-18 (noting, by comparison to a "sole owner" benchmark, that index funds may have control of the companies they own (even if they 'lack strong incentives to take any given decision') and also that there might realistically exist (managerial) agency costs - the two claims are not inconsistent). As noted above, the "sole owner" benchmark that fits the analysis of the "concentrated" common ownership variety is not appropriate for assessing "diffuse" common ownership that rests on a paradigm of "symmetric" partial ownership and control by several common owners relative to other dispersed shareholders. See n 72 and 92 and surrounding text. For this reason, in fact, remedy proposals against "diffuse" common ownership suggest regulatory limits or antitrust enforcement aimed at re-concentrating common ownership and investment in a single firm in each (oligopolistic) product market (i.e., transforming "diffuse" common ownership into "concentrated" common ownership). See Posner, Scott Morton and Weyl (n 174) 678, 701; Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 65.

[216] Armen A Alchian, 'Corporate Management and Property Rights' in Henry G Manne (ed), *Economic Policy and the Regulation of Corporate Securities* (American Enterprise Institute 1969) 342.

[217] Azar, 'The Common Ownership Trilemma' (n 51) 265 ("The enormous success of index funds and other instruments to achieve better and cheaper diversification is the practical counterpart to the triumph of the ideas of Modern Portfolio Theory, which showed that rational shareholders would want [under some assumption, of course] to hold the market portfolio."), 268 and 271 ("the rise of concentrated overlapping ownership is mostly due to the rise of the index funds, with the economies of scale in investing that inevitably go with that.").

control of diffuse common owners in all the linked firms is "partial", albeit (to some degree) common (i.e., minority common ownership and minority common control).[218] The driving anticompetitive motive is external to the firm (partial parallel ownership of multiple firms), hence an analytical focus on entity-centric[219], action-based and shareholder concentration perspectives ("active" concentrated common ownership) may be distracting, if not misleading.[220] On the other hand, it is quite interesting to reflect upon the (rather idiosyncratic) nature of "*common control*" in the case of diffuse common ownership based on diversification. Unlike full mergers, common control in this case is:

i) Partial rather than complete control (assuming common owners have some control over the partially held firms absent other more prominent shareholders in their governance structure). This partial control of common diversified investors and index funds is often modeled based on a "proportional control" baseline assumption – control being equal to the equity share.[221] The criticism against the proportional control assumption underlying (empirical and theoretical) economic research is not wholly justified. This is for a number of reasons. Given the "power vacuum" that institutional investors and large index funds in particular come to fill by replacing atomistic, retail shareholders (meaning that there is no real antagonistic force in firm governance by other shareholders with larger shareholdings and more influence that can press forward and implement their preferences), and given the fact that control has to lie with

[218] See section II.A above.

[219] A narrow control-oriented competition analysis of common ownership may be misleading in two particular respects. For instance, control is not important when i) the anticompetitive mechanism relies on "pure passivity" arising from the diversification of investment and diffusion of ownership in that the effects transcend firm boundaries and structure; ii) manifestation of the competitive harm (partly) relies on "committed managers" that internalize the common owners' objectives in which case common shareholders' concentration is immaterial. Accordingly, competition policy solutions taking an entity-centric view or focusing on common owners' concentration may not be wholly effective. See Hemphill and Kahan (n 12) 1452 ("fragmentation [break up] could lead to fewer anticompetitive results. However, this benefit does not arise if CCOs employ a passive across-the-board mechanism or if managers, of their own accord, decide to compete less aggressively to further the interests of their shareholders. [...] combining two CCOs into a larger one, or splitting a CCO in two, has no impact on anticompetitive effects achieved through pure passivity."). It is also for this reason that traditional structural indices (HHI) that rely on the nominal number of firms in an industry to measure market concentration (single-firm control) do not capture well the effects generated by common ownership across firms. On modified concentration indices (MHHI, GHHI) developed to capture the additional "effective" concentration (and market power) created by partial or common ownership of competing firms, see Bresnahan and Salop (n 142); O'Brien and Salop (n 65); Azar, Raina and Schmalz (n 1); Duarte Brito and others, 'Unilateral Effects Screens for Partial Horizontal Acquisitions: The Generalized HHI and GUPPI' [2015] Faculdade de Economia e Gestão, Universidade Católica Portuguesa (Porto), Working Paper Nº 02/2015.

[220] This is not to say that within-firm shareholder concentration is completely irrelevant (indeed it matters in order to appreciate the relative degree of partial common owners' control vis-à-vis other shareholders and management) but it is a secondary consideration to common owners' parallel interests that induce the anticompetitive effects in the first place (common ownership incentives inducing the unilateral pricing effects and the pursuit of supracompetitive oligopolistic profits). That is, the main driver is diversification, not shareholder concentration. Cf Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16); O'Brien and Salop (n 65) 612.

[221] See n 74-75 above and surrounding text.

some shareholder representative (meaning that not all shareholders can be passive in all firms at the same time) and given that institutional investors are the most likely candidate to exert control or influence in the context of large, public, widely held firms (assuming they possess disproportionate governance power than implied by their seemingly small common financial holdings), then the "*proportional* control" assumption may be simply understood as a lower bound for potential anticompetitive effects.[222] That is, diffuse common owners may be assumed to have *relative* control, for instance by being the largest shareholder(s), among other "more passive" shareholders.[223]

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[222] See also n 72 and 242. That said, such "proportional control" assumption is only a starting basis for economic analysis; facts in the specific case may suggest the presence of large, undiversified blockholders in many commonly held firms (in which case common owners may effectively have "zero control") or reversely, the presence of other asymmetric shareholder dynamics (indicating *de facto* disproportionate control of common owners relative to other shareholders nearing that of "total control" in the limit, as Banzhaf indices suggest when control approaches 50% majority ownership) or to a similar effect, the presence of asymmetric governance structures (e.g., dual-class shares, non-voting stock, contractual arrangements providing disproportionate control or decision-making rights). Accordingly, in such circumstances the "proportional control" assumption could and should be revised downwards or upwards to reflect the reality of the specific case and context. Such updated control assumptions and resulting competitive harm estimations may bring the effects analysis closer to the actual or likely effect. In light of the above however, until we have a better understanding of the (ambiguous) partial common control implications of common ownership and given the "one-share-one-vote" corporate governance principle, proportional control in case of common owners with parallel, symmetric interests and no asymmetric counterweight in governance is a reasonable analytical assumption. On the other hand, assertions that corporate voting relies on majority rule and thus the outcome is not a function of proportional control weights is inapposite and incorrect because it takes an *ex post* view. See claim by the merging parties in Case M.7932 *Dow/DuPont*, Commission decision of 27 March 2017, Annex 5, para 78. From an *ex ante* perspective, however, it may be reasonable that managers care about and seek to maximize the *expected* vote share or likelihood of gathering majority shareholder support and remaining in office, in which case they will take into account the relative minority power of common owners and other shareholders (assuming none has straight majority control) in proportion to their shares (again assuming no asymmetric governance structures or contracts among shareholders granting disproportional control). Said differently, although the concrete voting outcome may and will usually change, the chances of securing a majority outcome weighted by the relative power of each shareholder is what matters from a manager's point of view and what will shape its incentives and behavior. In an extreme scenario, shareholders may choose not even to exercise their right to vote, but the probability and threat of doing so may in itself discipline firm management and its strategic choices. See Einer Elhauge, 'The Growing Problem of Horizontal Shareholding' (2017) Index Funds – A New Antitrust Frontier? CPI Antitrust Chronicle 4 (noting that "the voting of horizontal shareholders is likely to influence managers" in two fashions: i) "if managers maximize their expected vote share, shareholders will be weighted proportionally to their voting shares"; ii) "if managers maximize their probability of re-election, shareholders will be weighted by the odds that the particular shareholder's vote will be pivotal, which gives extra weight to the largest shareholders, who typically are now horizontal shareholders"); Azar, 'Portfolio Diversification, Market Power, and the Theory of the Firm' (n 7) (developing voting models of firm behavior in oligopoly whereby managers take common shareholding into account).

[223] Frank H Easterbrook and Daniel R Fischel, 'Voting in Corporate Law' (1983) 26 The Journal of Law & Economics 395, 406: "One final point on the relation between voting and residual claims. Shareholders do not always have equal power. Sometimes stable coalitions (a group of inside shareholders and some institutional allies) may hold effective control for long periods. This is beneficial, for reasons we have explained, because it alleviates the collective action problem. It is not troublesome if the gains from corporate action are divided proportionally among all shareholders. Even when gains are not proportionally divided, the aggregation of 'voting power' is uninteresting if coalitions can change. So long as each share has an equal chance of participating in a winning coalition, the gains from monitoring will be apportioned so as to preserve appropriate incentives at the margin." The critical point about common ownership is that although "effective control" by common, diversified shareholders may be beneficial for all shareholders assuming they discipline management and minimize agency

Were "partial common control" to be established, diffuse common ownership would effectively have the same effect as a *partial merger*. Although it is "partial integration" without hierarchy à la Williamson but via diversification.[224] Intriguingly, were common owners able to effectively implement anticompetitive strategies based on selective passivity (across-the-board or selective omission) as described above, then Williamson's idea of "*selective intervention*" that was thought impossible in a standard merger context,[225] may now be feasible in case of "effective integration" due to across-firms diversification. In other words, common ownership could act as a (partial) merger substitute with the additional advantage that "selective intervention" (intervening when the net expected gains exceed the costs) is possible.[226]

ii) Factual (*de facto* minority or "effective control"[227])[228] rather than legal in nature or straight control (*de jure* sole or majority control, as would be the case in "concentrated" common

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costs, the concentration of voting power may also have negative implications for undiversified shareholders in two ways: i) the distribution of corporate profits may not be proportional (indeed this is the main claim of the common ownership literature that it changes the objective function of the firm so that portfolio rather than firm profits are maximized); ii) the chance of being part of a winning voting coalition may also be unequal (as between passive institutional and retail shareholders). In other words, the relative concentration of shareholder power may bear its own agency costs (private benefits of control) that will be against the interest of the minority (in this case retail undiversified investors). Thus, the singularity of shareholders as a homogenous group of residual claimants could also be brought into question. Yet, practically this may become problematic in cases of "concentrated" common ownership given the asymmetric ownership links between the rival firms. In cases of "diffuse" common ownership, the parallelism and symmetry in ownership stakes across competitors may give rise to anticompetitive effects (supracompetitive industry and firm profits) that presumably benefit all shareholders.

[224] Oliver E Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications* (Free Press 1975).

[225] Oliver E Williamson, *The Economic Institutions of Capitalism* (The Free Press 1985) 135 and 161: "Selective intervention whereby integration realizes adaptive gains but experiences no losses, is not feasible. Instead, the transfer of a transaction out of the market and into the firm is regularly attended by an impairment of incentives."; Oliver E Williamson, 'Economic Institutions: Spontaneous and Intentional Governance' (1991) 7 Journal of Law, Economics & Organization 159, 165: "if the firm can intervene selectively (namely, intervene always but only when expected net gains can be projected), [...] the firm will do at least as well as, and will sometimes do better than, the market. [But] selective intervention is impossible. [...] the option to intervene can be exercised both for good cause (to support expected net gains) and for bad (to support the subgoals of the intervenor)."

[226] In essence, common ownership combines elements of market autonomy by preserving formal firm independence post-acquisition with intervening selectively (always and only) when the net gains are greater (e.g., profit sharing of oligopolistic rents due to internalization of competitive externalities, or internalization of any (positive) externalities, and maximization of portfolio profits of common owners).

[227] Williamson, *Markets and Hierarchies, Analysis and Antitrust Implications* (n 224) 252: "A third approach that comes out of the property rights literature is that it is 'effective control' that matters. My initial work on managerial discretion [...] is an example.". Similarly, the Berle and Means thesis on the "separation of ownership and control" in the modern, large, public corporation speaks of such *de facto* or "effective control" of managers (managerial discretion and agency costs) vis-à-vis small, dispersed public shareholders invested in the firm. See Adolf A Berle and Gardiner C Means, *The Modern Corporation and Private Property* (Macmillan Co 1932).

[228] Gardiner C Means, 'The Separation of Ownership and Control in American Industry' (1931) 46 The Quarterly Journal of Economics 68, 72, 80–81: "a wide variety of kinds and conditions of [corporate] control situations can be found [...]. Five major types can be distinguished[:] (1) control through almost complete ownership, (2) majority control, (3) control through a legal device without majority ownership, (4) minority control, and (5) management control. Of these, the first three are forms of control resting on a legal base and revolve about the right to vote a majority of the voting stock. The last two, minority and management control, are extra legal, resting on a factual rather than a legal base. [...] In the typical large corporation, however, control does not rest upon legal status. [...] As in the case of legal control, factual control apart from legal control may involve varying degrees of

ownership situations). Accordingly, in attempting to estimate the competitive effects of diffuse common ownership, the analyst must by necessity examine the facts of the case that will also inform the plausibility and reasonableness of the control assumptions.

iii) Shared between the common owners-shareholders and other groups with (partially) heterogeneous goals such as undiversified shareholders or management of the commonly held firms ("joint control").[229] This view suggests that no one shareholder enjoys total majority control (no sole shareholder control) and also that there is no full separation of ownership and control (some management control).[230] Accordingly, the degree of separation of ownership and control (managerial entrenchment) and the relative strength of *de facto* shareholder control among minority common owners on the basis of voting coalitions (shareholder minority bloc) may mitigate or reinforce the potential anticompetitive effects of common ownership (from partial to full internalization of rivals' profits).[231]

Furthermore, in the diffuse common ownership setting, "uncommitted" owners (with joint minority control) are not focused or identified with the self-interest of any individual firm in their diversified portfolio (although this lack of commitment may be to the firm's benefit as the unilateral effects analysis has indicated). To the extent that managers are "*committed*" to

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ownership, tho never more than 50 per cent of the voting stock. Factual control may rest to a very considerable extent on the ownership of a large minority stock interest ("minority control"), or, when stock ownership is widely distributed, it may lie in the hands of the management ("management control"). No sharp dividing line exists between these two situations. [...] In such companies [...], it is necessary to examine in greater detail the conditions surrounding the election of the board of directors."

[229] ibid 89, 93: "Sometimes factual control is not found in the hands of any single group. We have seen how dependent a controlling minority may be upon the cooperation of the management and how a controlling management may have to accede in a measure to the demands of a strong minority in order to maintain its measure of control. It is not unusual for two or more strong minority interests to enter into a working arrangement by which they jointly maintain control; or a minority and a management may combine as 'the' control. In such cases we may say that control is divided and can refer to the situation as 'joint control.' [...] Cases falling between 20 and 5 per cent were usually classed as joint minority-management control."

[230] Williamson, *The Economic Institutions of Capitalism* (n 225) 145: "to observe that ownership and management are separated does not establish that ownership is thereafter wholly lacking in control. [...] The absence of continuous (hands-on) control permits those to whom decision powers are delegated to exercise discretion. But a total absence of control is not thereby implied. To the contrary, if ownership control is reasserted when performance approaches or falls below threshold standards, then the relevant questions are ones of thresholds and competence to intervene." As noted (n 206) above, this "separation of ownership and control" is not inefficient and may be rationalized and thus, there is no absolute loss of control by shareholders-principals.

[231] Azar, 'The Common Ownership Trilemma' (n 51) 286–293; Azar and Tzanaki (n 10) 38 (noting factors such as managerial entrenchment and shareholder concentration or dispersion that may determine to what extent the objectives of shareholders and of managers may influence the firm objective function under common ownership); Backus, Conlon and Sinkinson, 'Common Ownership and Competition in the Ready-to-Eat Cereal Industry' (n 9) (suggesting that their empirical tests reject the 'exact' common ownership hypothesis (full internalization of common owners' incentives by managers) but not more moderate versions whereby only up to 30% of common owners' profit weights are transmitted to managers; thus proving some empirical confirmation as to the existence and importance of managerial agency costs (partial internalization of common ownership incentives)).

such diversified and indifferent shareholders[232] (an idiosyncratic kind of agency cost since strictly speaking a subset of owners is favored, yet again this selective attention and preference may be to the corporate entity's and all of its shareholders' benefit)[233], the anticompetitive effect of common ownership may be robust at *any level* of within firm shareholder concentration (as long as there is no large, asymmetric and undiversified blockholder) and across firm diversification (parallel ownership in competitors). That is, the size of common shareholding is irrelevant as long as common owners have greater relative influence in the governance of the linked rival firms. In the limit, in fact, as we reach "perfect symmetry" in common shareholdings, the effect of relative investor concentration becomes irrelevant.[234]

In such case given that the *ratio* of common shareholding participations is equal, the weight the manager of a commonly held firm puts on the profit of another linked rival firm is one (full internalization). Analogously to the scenario of a 50/50 joint venture structure, as ownership interests become equal and symmetric (identical financial interests), control although nominally partial (50/50) materially becomes complete (full joint control) and irrelevant (as it is a secondary consideration to the main driver being the symmetric ownership structure). Put

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[232] Hemphill and Kahan (n 12) fn 168 ("To the extent that managers indeed seek to further the interests of their shareholders of their own accord, as opposed to being induced as a matter of self-interest, it is unclear if anything can be done to reduce the anticompetitive effects of common ownership. As long as managers believe that their ultimate beneficial owners hold broadly diversified portfolios, they will understand that these owners benefit from less aggressive competition and act to confer that benefit. On this view, it does not matter whether common ownership is concentrated. [...] Nor does it matter whether the common owner is a financial intermediary."). Nevertheless, the systemic, long-term governance role of institutional investors as common owners may make the prospect of "committed" managers all the more likely.

[233] On controllers' agency costs and fiduciary duties that are unlikely to act as an effective constraint against competition effects (controllers being conceived as either controlling shareholders or corporate managers), see n 186 above and further Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 45: "this argument [that managers' fiduciary duties prevent anticompetitive effects of common ownership] logically conflicts with well-established antitrust law deeming anticompetitive concerns to arise when one firm acquires a controlling interest of less than 100% in a competitor. If this argument were right, such acquisitions would raise no anticompetitive concerns because fiduciary duties to the noncontrolling non-horizontal shareholders of the competitor would prevent the acquirer from ever using their control to lessen competition. The reality that antitrust law takes the opposite position means that it necessarily rejects the claim that fiduciary duties to the non-horizontal shareholders suffice to prevent anticompetitive effects."; Elhauge, 'The Growing Problem of Horizontal Shareholding' (n 222) 6 (stressing that given that "the net effect of horizontal shareholding is to increase the profits of all the affected firms" it is questionable how non-horizontal shareholders "could show injury from any claimed fiduciary duty violation"; and also that "the operational decisions affected by horizontal shareholding are protected from fiduciary duty claims by the business judgment rule." Since fiduciary duties do not necessarily bar anticompetitive effects in case of "concentrated" common ownership as Elhauge notes above, the argument is even stronger for "diffuse" common ownership.

[234] Backus, Conlon and Sinkinson, 'Common Ownership in America' (n 16) 17 ("it is the increase in overlapping ownership, driven by indexing behavior, that explains the lion's share of the rise of common ownership."), 18 ("Holding all else equal, as firm f's own investors become more concentrated we expect them to put less weight on other firms' profits. But a general rise in IHHI [relative investor concentration] will appear in both the numerator and the denominator, so the effect is ambiguous. So, though IHHI has been rising since 1980, relative investor concentration cannot be rising for all pairs of firms simultaneously, and therefore rising investor concentration cannot fully explain the rise over time in κ [profit weights].").

differently, there is a sharp disconnect in the link between corporate control and competition harm as mediated by the level of shareholding (50% equally shared ownership implies complete control and leads to the same effect as a full merger). Similarly, in case of diffuse common ownership, no matter how *low* the level of the *relative* ownership interests and of the relative shareholder control in the rival firms so long as they are symmetric (identical interests) and equally shared (proportional, joint control), the anticompetitive mechanism operates just the same and the harmful effect on competition may be functionally equivalent to that of a complete merger (full rivals' profit internalization).[235] It is notable in this regard that the unilateral theory of harm based on a pure change in incentives (without formal control) was introduced by U.S. case law enforcing merger control rules on the basis of a case where the overlapping ownership structure resembled the above assumptions and fact pattern (JV-like structure with 50% parallel, symmetric interests in the two major competitors in the industry, and "committed" managers to the *de facto* jointly controlling common shareholder-owner).[236]

Thus, while diffuse common ownership does not strictly rely on joint control as in a merger or joint venture scenario, a full internalization of rivals' profits will effectively have the same effect (weight equal to one on the linked rival firms' profits). It is for this reason as I have noted elsewhere that we need to shift focus as regards the corporate ownership "atom" and rather than being distracted by visible and "solid particles" (*control rights*) to also start observing more fluid and "invisible waves" (*parallel interests*):[237] we may be used to attend the former

[235] Assuming always "committed" managers (no managerial agency costs) and all else being equal. See also Schmalz (n 51) 420: "Rotemberg's (1984) benchmark result is that when identical shareholders are fully diversified, that is, when they hold equal fractions of shares in all (symmetric) firms, firms' incentives to compete in the product market are annihilated, with the result of output falling to the monopoly level. Whereas he refers to this outcome as "collusive," he points out that in contrast to the conventional use of the term, diversification takes away incentives to deviate from the monopolistic outcome, and therefore no punishment strategies or communication are necessary to sustain this strategy. Each firm's behavior is simply the result of managers unilaterally maximizing their shareholders' interests."; Boller and Morton (n 20) 6–7.

[236] See n 44-45 above referring to United States v. Dairy Farmers of America, Inc., 426 F.3d 850 (6th Cir. 2005), where the emphasis is on the "effect on competition" based on altered incentives to compete (aligned interests) regardless of the presence or any formal "change of control"; and OECD, 'Antitrust Issues Involving Minority Shareholdings and Interlocking Directorates' (n 104) 178–179: "DFA's 50% interest in each [commonly held] dairy's profits gave DFA a strong incentive to reduce competition. DFA also had an incentive to facilitate unilateral price increases, irrespective of coordination between the dairies. Because of DFA's half ownership of both dairies, it would not matter to DFA if customers of either dairy switched to the other dairy in response to a price increase [...] More important, the appellate court also held that DFA's voluntary relinquishment of its voting rights did not remedy the [antitrust] violation. [...] DFA could still reduce competition because it had installed managers in the companies who would be loyal to DFA's interests."

[237] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 28. As the "double slit experiment" in physics shows, waves may be invisible to the observer but their effect (or "presence") – in the form of an "interference pattern" – can be. (The experiment demonstrates the wave–particle duality, which states that all matter exhibits both wave and particle properties: the particle is measured as a single pulse at a single position, while the wave describes the probability of "absorbing" the particle at a specific place on the screen. In addition, the very act of "observing" makes the interference pattern disappear

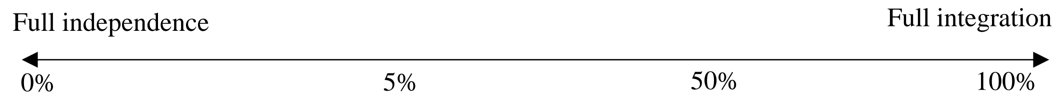
given their conspicuous presence (or absence) and our familiarity with property notions of the firm and its shares but reality is forcing us to redirect attention outside the firm to grasp the effect of less familiar and less directly observable ownership phenomena with significant implications for competition outcomes.[238] Indeed, the *absence* of large dominant shareholders within firms and the *presence* of widespread common ownership links across firms in an oligopolistic industry should warn us to be on the lookout for such effects as the traditional assumptions of perfect competition and the presence of blockholders that underpin the economic and legal structure (i.e., industrial organization and corporate governance) of merger control regimes as to the innocuousness of small, purely passive shareholdings (as illustrated in the previous sections of this article) do not hold.

Figure 5 below provides a visual representation of the different relevant control situations, by reference to a full or partial acquisition along a continuum of ownership levels (that indicates and ranges from full integration to full independence). These are classified as: i) *majority control* by a dominant shareholder-common owner that has a passive minority stake in another rival firm (concentrated common ownership); ii) *minority control* by several jointly controlling common shareholders over several rival firms (diffuse common ownership); iii) *management control* and complete firm independence despite common shareholdings among rival firms (managerial agency costs and full separation of ownership and control). Each of these control scenarios effectively represents a distinct model of corporate governance.

(by causing waves to behave as particles), which creates a "measurement problem" for quantum mechanics. See: https://en.wikipedia.org/wiki/Double-slit_experiment, and https://plus.maths.org/content/physics-minute-double-slit-experiment-0.) With this colorful metaphor in mind, empirical economic research should be directed to the estimation of such indirectly apprehensible "probabilistic" outcomes of common ownership incentives by testing alternative theories on the objective function of the firm and control assumptions. In this connection, the famed U.S. Supreme Court phrase "I know it when I see it" (found in Justice Potter Stewart's concurring opinion in Jacobellis v. Ohio, 378 U.S. 184, 197 (1964), the fuller version being: "I shall not attempt further to define [what may be undefinable]. But I know it when I see it") may be of particular relevance. That is, we may be far from a full economic let alone legal definition of common ownership, yet the first step is trying to understand the different dimensions of the problem and develop ways to approach and measure them with the aim to arrive at a more comprehensive theory and definition of the issue in the future on the basis of that knowledge.

[238] It is instructive and notable in this regard that in case of diffuse common ownership, as said, the nominal number of firms present in the market (market concentration) is neither the (sole) source nor a (reliable) predictor of the effect (the effect crosses the firms and makes them irrelevant as a unit of analysis). That is, common ownership dilutes the very concept and analytical foundation of the firm as a stand-alone, well-defined entity in economic terms, hence the need to revisit its objective function and inject "realism in motivation" as Williamson has put it. See Williamson, *Markets and Hierarchies, Analysis and Antitrust Implications* (n 224) 252.

Figure 5. Spectrum and bounds of (economic) control –
Corporate control by shareholders vs managers for varying levels of integration



Parameters	Managerial control	Minority control	Majority control
Ownership and governance structure	No dominant shareholder(s) Silent financial interest	Partial control *De facto* joint control	Total control Sole controller
Driver of particular control situation	Managerial agency costs (discretion)	Shareholder diversification (symmetry)	Shareholder dominance (control)
Theoretical paradigm	Berle & Means model	Azar et al. model	Gilo model
Objective function (own and rival firm)	firm profit maximization + manager's objectives profit maximization/ independent firm	shareholder profit maximization + % proportionally to their stakes same/ mirror image	controller's profit maximization (- minority) + % stake in rival proportionally/ no agency cost
Type of control	Factual control	Factual control	Legal control
Level of integration	No merger	*De facto* partial merger	Full merger

On the basis of the above exposition, it is important that common ownership works through institutional intermediaries for additional reasons: i) for the dilution effect to manifest it is key that the firm's controller directly invests in the competing firms (rather via the firms) because only then there is the disproportional internalization that can be "manipulated with" (strategic motivation)[239], ii) institutional investors and in particular the "Big Three" are not just any intermediary but they have the (*de facto* structural) power, scale and clout to credibly execute

[239] Gilo (n 67) 37–38: "Without acknowledging this strategic motivation, one might claim that although passive investment may have an incidental anticompetitive effect, it is motivated solely by investment considerations, and not by anticompetitive ones. It is plausible to claim that the acquisition is thereby deemed 'solely for investment' and is eligible for the exemption. However, once we acknowledge the strategic anticompetitive motivation behind passive investment (i.e., inducing competitors to compete less vigorously themselves), it will be easier for a plaintiff to claim that the acquisition is not solely for investment [...] therefore outside the scope of the exemption."

any of their governance threats and discipline management when necessary[240] (selective intervention or omission)[241]; iii) the relative influence of common institutional owners is in fact disproportionate compared to any other "passive" individual investor with proportional voting rights ("more equal among equals") due to its systemic, institutionalized and informal nature (*de facto* minority control).[242]

[240] Bebchuk and Hirst (n 25) (documenting the dramatic growth of the Big Three index funds; that each of them now manages 5% or more of the shares in a vast number of public companies and they collectively cast an average of about 25% of the votes at S&P 500 companies; while as these trends continue, the future "Giant Three" are expected to be casting as much as 40% of the votes within two decades); Fichtner, Heemskerk and Garcia-Bernardo (n 25) (showing the massive shift towards passive index investment funds that are the largest shareholder in 40% of all listed companies and 88% of S&P 500 firms; that they are "permanent owners" that cannot use "exit" strategies but also not "passive owners" as they pursue a centralized voting and governance strategy ["voice"]; they occupy a position of "structural prominence" in the market for corporate control; they have "disciplinary power" over management; and they possess other avenues of "hidden" power such as private engagements with management indirectly inducing firms to internalize the [portfolio or systemic] objectives of the Big Three); Daniel Haberly and Dariusz Wojcik, 'Earth Incorporated: Centralization and Variegation in the Global Company Network' <https://papers.ssrn.com/abstract=2699326> (suggesting that a very small group of passive funds have come to comprise a "*de facto* permanent governing board" for a growing share of major global companies); Ian R Appel, Todd A Gormley and Donald B Keim, 'Passive Investors, Not Passive Owners' (2016) 121(1) Journal of Financial Economics 111 (finding that passive investment funds are not really "passive owners" as they have an "influential voice" due to their large voting blocs in decisions regarding firms' governance structures, resulting in more independent directors, removal of takeover defenses, more equal voting rights and less dual-class share structures; and also finding that ownership and engagement by passive funds leads to less activism in portfolio companies); Goshen and Levit (n 2) 14 ("Even the most 'passive' of investors—index funds that mimic market portfolios such as the S&P 500—actively agitate for strong governance. [...] they can—and do—vote, disproportionately in favor of measures that empower shareholders, and mostly as part of one-size-fit-all voting policies."); Coffee (n 89) 1-3 ("the more recent and extraordinary concentration in stock ownership [has] the result that as few as five to ten institutions today may be in a position to exercise *de facto* control over even a large public corporation. The Big Three [...] now hold over 20% of the shares in S&P 500 companies (and vote approximately 25%). [...] institutional investors, recognizing the power of their common ownership, are beginning to make decisions on a portfolio-wide basis (rather than seeking only to maximize each individual firm's value).") 35 ("only diversified investors with high common ownership can take effective [collective] action [to minimize externalities]") 36 ("Not since Berle and Means announced the separation of ownership and control have shareholders as a group perceived themselves to possess the power to behave as 'true owners.' But, unlike the 'true owners' of the 19th Century [fitting the paradigm of 'concentrated common owners'], the focus of institutional investors as owners will logically shift to maximizing portfolio value, not the value of individual stocks [potentially fitting the paradigm of 'diffuse common owners']."); José Azar and others, 'The Big Three and Corporate Carbon Emissions Around the World' [2020] Journal of Financial Economics, forthcoming (suggesting their effective role in inducing firms to internalize the ESG preferences of institutional investors).

[241] Hemphill and Kahan (n 12) 1427 ("selective omission is, in effect, a targeted passive mechanism") while across-the-board strategies on a portfolio basis reflect general passive mechanisms. As already explained, both such governance strategies fit the paradigm of diffuse common owners that adopt passive transmission mechanisms (selective passivity) and decide to intervene in governance based on their aggregate portfolio interests (and not the interests of individual firms in their portfolio).

[242] O'Brien and Salop (n 65) 570: "Where there is no majority shareholder, larger minority shareholders may have disproportionate control as a result of their superior ability to form voting coalitions that can jointly control the outcome"; Easterbrook and Fischel (n 223) 402: "[unlike votes] 'voters are not fungible'. Those who have more shares, such as investment companies, pension trusts, and some insiders, do not face the collective action problem to the same extent."; Case M.7932 *Dow/DuPont*, Commission decision of 27 March 2017, Annex 5, para 21: "large shareholders have a privileged access to the companies' management and can, therefore, share their views and have the opportunity to shape the companies' management's incentives accordingly." Also, the fact that institutional investors advocate for equal voting rights and removal of takeover defenses creates a paradox that can be fully rationalized: on one hand, they are supporters of strong governance aiming to minimize managerial entrenchment (to the benefit of all shareholders), on the other hand, given their large share ownership size and

Indeed, index funds with a highly diversified and wide portfolio of companies (number of links), relatively large shareholdings in particular firms compared to small, individual investors (level of links) and relatively symmetric stakes across the leading competing firms in an industry (symmetry of links) are the best fitting candidate for the theory of anticompetitive harm and strategies set out in this and the previous section. In this case, the "network of links" and the "degree of internalization" of rivals' profits is likely to be both wide-spread and significant, indicating sizeable and appreciable "*common ownership incentives*". Indeed, the "long-term" investment horizon of index funds makes strategies to act on and benefit from these anticompetitive incentives credible.[243]

In addition, although index funds have a "passive investment" business model and a "low cost, one-size-fits-all approach to governance"[244] compared to other investors, they are not "silent" or completely "passive owners".[245] They do have a duty to vote their shares,[246] they engage with their portfolio companies even if to a potentially lesser (or less informed) degree than

structural power, advocating for equal voting rights is predictably and *de facto* to their benefit, so they are to call the shots in governance decisions (based on a portfolio-wide view).

[243] Hemphill and Kahan (n 12) 1445 ("because of their longer investment horizon, [index funds] may be better equipped to execute across-the-board strategies, such as disfavoring relative performance incentives and supporting management against activists who advocate more aggressive competition."); Patrick Jahnke, 'Ownership Concentration and Institutional Investors' Governance through Voice and Exit' (2019) 21 Business and Politics 327, 347 (suggesting that global asset managers have the potential to act as global standard setters (or 'stewards of the commons' as Serafeim has put it) and that "with their long time horizons and common ownership [index funds] are able to provide the 'commitment mechanism' necessary to ensure that companies work together to internalize externalities created within each industry.").

[244] Dorothy Shapiro Lund, 'The Case Against Passive Shareholder Voting' (2018) 43 The Journal of Corporation Law 493.

[245] Note the important distinction between "added-cost" and "minimum-cost" stewardship activities of institutional investors, drawn by Bebchuk, Cohen and Hirst (n 205) 95-96 ("Stewardship decisions can be split into two parts: 1) spending decisions regarding how much to expend on stewardship; and 2) qualitative decisions regarding which way to vote or which positions to take in communications with corporate managers and other shareholders. [...] In many cases, stewardship decisions may be merely qualitative, and not involve additional cost [e.g. voting]"). Thus, although index funds may not be interested in engaging in costly stewardship activities such as initiating proxy fights (both because of the additional cost they entail in general and because of the private indirect cost that index funds may bear by opposing corporate management given their interest in attracting 401(k) business; see ibid 102), they will regularly vote or undertake the minimum stewardship activities required by law.

[246] Coffee (n 89) 32 (noting that investment advisors in their capacity as "fiduciaries [are required] to vote the shares held by their fund, on the theory that voting rights are an asset belonging to the fund and cannot be wasted. U.S. agencies recognize that voting has low costs and that fiduciaries must constantly make these decisions across their portfolios.").

"active" or "activist" institutional investors,[247] and their voting matters.[248] Indeed, their large size (the overall size of their investment portfolios combined with the size of individual shareholdings in portfolio firms) and other characteristics suggest that they have *relatively* strong incentives to be "engaged" shareholders as they stand to gain considerably from firm value improvements.[249] Also, they are likely to have *greater ability* to effectively engage and affect firm policy as they have *relatively* greater influence than other shareholders within large firms with a dispersed shareholder base (absent large blockholders).[250]

Indeed, these incentives and ability to effect anticompetitive outcomes will be multiplied and reinforced considering the cumulative impact of index funds with parallel common shareholdings across rival firms that, as a group, may have similar interests and even greater

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[247] Jill E Fisch, Assaf Hamdani and Steven Davidoff Solomon, 'The New Titans of Wall Street: A Theoretical Framework for Passive Investors' (2020) 168 University of Pennsylvania Law Review 17, 71 (suggesting that passive fund sponsors have a variety of incentives to engage and the ability to engage effectively, i.e.: i) because of the competition faced by mutual fund sponsors, passive fund sponsors need to exercise their governance rights in an informed manner to promote firm value and they must do this by relying on voice, rather than exit; ii) highlighting the structural advantages of passive with respect to certain types of engagement, particularly market-wide initiatives such as improving corporate governance – due to their size, breadth of portfolio and economies of scale; iii) explaining the role that passive investors can play in mediating shareholder activism).

[248] Lund (n 244) 493 ("the institutional investors that dominate the passive fund market will increasingly influence and even control the outcome of shareholder interventions - from shareholder votes to those proposed by hedge fund activists") 495 ("the rise of passive investing has the potential to distort hedge fund activism. Hedge fund activists are increasingly moderated by large institutional investors with the power to block campaigns that are not in the interest of their long-term shareholders and catalyze interventions that are deemed beneficial."); Jahnke (n 243) 343 ("[there is] a concern that passive investors may have different objectives to active investors and that these differing objectives could hamper the proxy campaigns of other shareholders, especially activists. What is indisputable is that the sheer size of their combined assets means that in an increasing number of proxy battles they will cast the deciding vote.").

[249] Jonathan Lewellen and Katharina Lewellen, 'Institutional Investors and Corporate Governance: The Incentive to Be Engaged' [2018] Dartmouth College, Tuck School of Business Working Paper No. 3265761 (finding that "the average institution gains roughly $143,100 in annual cash flow if a firm in its portfolio rises 1%. The estimates range from $22,300 for small institutions [with relatively concentrated portfolios] to $335,900 for the largest institutions [with more diffuse holdings]"); Jahnke (n 243) (explaining why index funds engage in corporate governance, i.e.: i) "for many institutional shareholders today, voice is more feasible than exit"; ii) "for the largest index investors, the cost of engagement has fallen to a level where it is today negligible" due to economies of scale; iii) "the immense concentration amongst index funds, with the three largest fund managers controlling over 90 percent of assets, ensures sufficient return on their governance investments").

[250] Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 66–67 ("many factors indicate that index funds are likely to exert more effort relative to other shareholders. (a) index funds cannot exit firms, which increases their incentives to exert the effort necessary to exercise voice. [...] (b) The index fund families that vote index fund shares have much larger shareholdings than other investors, which means that the marginal gains from effort are likely to be much larger for index fund families because they have more power to influence the corporation. (c) Unlike individual investors, index funds have fiduciary duties to vote their shares knowledgeably. The law requires them to expend efforts that other shareholders may simply skip. (d) index funds can usually apply any effort to arrive at a position on common governance issues [like executive compensation methods] across many more corporations, which means that index funds will incur less effort cost per stockholding than other investors."); Coates (n 25) 2 ("conventional analyses mistakenly assume that index funds must make significant expenditures to influence companies and neglect economies of scale in exercise of power [and] the power of control threats to discipline. Index funds increasingly possess the 'median vote' in corporate contests. That gives them an ability, even if contingent, to make crucial decisions across most public companies.").

aggregate voting power within firm governance.[251] For instance, index funds usually vote together at the fund family level.[252] The combined effect of multiple "passive" common shareholders having similar stakes that are widespread across the major firms in an oligopolistic industry and voting rights representing those parallel interests, may then imply that the real impact of diffuse common ownership may be "market-wide". Notably, the competitive impact of multiple diffuse common investors with symmetric parallel stakes in rivals may be "market-wide" even in the case of pure unilateral effects without collusion.[253] Therefore, the unique challenge and new antitrust risk of diffuse common ownership is its cumulative (unilateral) anticompetitive effects that may be multiple times that of concentrated common ownership by a single common investor or even index fund family.[254] In this light, index fund common ownership may also represent a new hybrid model of firm ownership and control combining characteristics (widely dispersed ownership and concentrated voting power) from both "outsider" and "insider" systems of corporate governance.[255]

IV. Implications for Theory and Competition Policy

There are several implications and conclusions to be drawn from the above analysis regarding the varieties and mechanisms of common ownership at the theoretical and policy level. To begin, I explore theoretical implications for competition law and economics and intertwined issues of corporate governance (A). Next, I discuss competition policy implications and put forward specific recommendations for developing merger control policy to effectively address cases of common ownership (B).

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[251] Monopolkommission (n 21) 444: "A shareholder's means of prevailing over other shareholders in a vote is of particular interest when various strategic objectives are being pursued. If several shareholders holding minority interests are pursuing the same objectives, then it may, in certain circumstances, make sense to look at their aggregate shares – even if they have not coordinated their actions. This captures the total voting power (in relation to total votes cast) which is used to achieve the relevant objective."; Alan D Crane, Andrew Koch and Sébastien Michenaud, 'Institutional Investor Cliques and Governance' (2019) 133 Journal of Financial Economics 175 (showing that investors connected through the network of institutional holdings vote together on proxy items).

[252] Elhauge, 'Horizontal Shareholding' (n 10) 1268; Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 54–55: "index funds generally do not vote their own shares: instead, their shares are voted at the fund family level"; Fichtner, Heemskerk and Garcia-Bernardo (n 25) 316–317: "the Big Three are able and do indeed apply centralized voting strategies."

[253] Schmalz (n 51) 420 and 438 fn 24 ("The key insight from both the theoretical and empirical literature is indeed that horizontal [common ownership] can lessen competition by changing unilateral incentives. In fact, the potential for collusion becomes less acute when unilateral incentives to compete are lessened by [common ownership] and drive markets toward monopolistic outcomes already.").

[254] Elhauge, 'Horizontal Shareholding' (n 10) 1283 fn 77: "so far there seem to have been no challenges to stock acquisitions that left multiple investors with substantial horizontal shareholdings that in aggregate lessen competition."

[255] See the "taxonomy of ownership and voting power" in Box 1 in Maher and Andersson (n 143) 14.

A. Theoretical implications

As regards theoretical implications, I focus on six of them here. First, it becomes obvious that the legal (absence of action) versus the economic notion of *passivity* (absence of effects)[256] – the first focusing on the *behavior of the acquired firm* (target) given the acquirer's active exercise of control while the latter on the *acquirer's incentives* – are distinct and not entirely overlapping. Unilateral effects may entirely flow from anticompetitive incentives linked to purely financial interests without any influence or control. Also, small stakes especially if held by rival firms' controllers are not necessarily innocuous; rather, the smaller the controller's stake in the firm it controls the more potentially significant the competitive concerns (concentrated common ownership). As a result, there is no straightforward relationship between the size or type of shareholding (i.e., financial, controlling, mutual) and competitive harm.[257]

It is only due to path dependence and the "merger equivalent" approach used to apply to partial acquisitions that we continue to treat leniently equity interests presumably too small to convey control (in case of no anticompetitive intent).[258] Essentially, antitrust analysis of mergers and partial acquisitions is control-centric and thus may capture and address certain problematic cases of concentrated common ownership. However, it largely ignores any harm potential of diffuse common ownership based on diversification. Yet, the above analysis has shown that small or purely financial shareholdings may have significant anticompetitive effects especially when there are many such parallel links among most of the few companies operating in an oligopolistic market. Hence, sole or overreliance on active influence and control in designing merger control thresholds is not justified.

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[256] What I have earlier called passivity or influence in the corporate versus the antitrust sense. See n 134 above. Another way to put it is influencing corporate conduct of a rival firm is not the same as influencing competition and rivals' conduct indirectly by changing one's own incentives.

[257] Gilo (n 67) 40–41: "One could theoretically put forward a technical (but incorrect) legal test that examines the degree of 'linkage' between competing firms after the passive stock acquisition. According to such a test, there would be more linkage and thus, allegedly, more anticompetitive harm, when the controller has a larger stake in the firm it controls while possessing a stake in the competing firm as well. It is clear [...] that such a test is invalid. As we have seen, the smaller the controller's stake in the firm it controls, the larger the anticompetitive harm."; Matthias Hunold and Frank Schlütter, 'Vertical Financial Interest and Corporate Influence' [2019] DICE Discussion Paper 309, Düsseldorf University Press 40: "These examples reflect the policy view that influential ownership is more harmful than non-controlling ownership. Our theoretical analysis suggests that such a clear distinction may not be optimal. What matters is the implied degree of profit internalization and not whether this stems from influence or from a profit participation. Non-controlling ownership in one direction can be as harmful as influential ownership in the other direction because both ownership arrangements can induce the same degree of profit internalization."

[258] Reynolds and Snapp (n 94) 142 fn 4 (noting this in the context of the U.S. merger control regime).

Second, control is a useful (and theoretically robust) but imperfect proxy for estimating competitive harm, particularly so in cases of "common minority shareholding" (diffuse common ownership). To begin, its presence signifies the lack of *independence* between legally separate corporate entities, which come to operate under common management or within the same business group.[259] Control is thus used to formally define the contours of a "single economic entity", the basic unit of analysis of business organizations under antitrust law.[260] At the same time, at the substantive level, independence effectively means that the constraining behavior of firms as separate competitive forces in the market remains undiminished. Complete independence of rival firms, however, in terms of their strategic behavior is unlikely in the presence of an extensive web of diffuse common shareholdings in oligopolistic industries. Such tempered firm independence has predictable (albeit not precisely quantifiable, yet) competitive effects (market power).

More generally, the control inquiry is instructive in many respects and makes the analysis more tractable, but it is by no means conclusive on the presence or magnitude of the competitive effects. For intermediate or informal control situations, e.g., partial or factual control or indirect or passive influence, control remains an open question as there is no generally established economic theory to rely upon in quantifying competition effects.[261] At the same time, it has been shown that diffuse common ownership alters rival firms' incentives to compete in concentrated oligopolistic markets and supported by a *de facto* minority control mechanism on the part of common shareholders may plausibly lead to harmful effects under certain circumstances. A less formalistic yet delimited "effects-based" theory of *competitive influence*, established by altered competitive incentives and some control ability, is better apt to capture the substance of business structures, firm interactions and market power implications for both varieties of common ownership.

Third, the ability to control another firm implies a degree of *certainty* when it comes to sharing in its profits, to which one may be entitled by means of financial investment.[262] *De facto*

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[259] See Ghezzi and Picciau (n 49) 4 (referring to "common majority shareholding" giving rise to a corporate group whose linked companies are not considered independent competitors for antitrust purposes).
[260] See n 48-49 above and surrounding text.
[261] O'Brien and Waehrer (n 12) 760.
[262] Besen and others (n 95) 466 ("if the financial interest conveys no control, but instead is passive or 'silent,' the firm's incentive to raise prices will be weaker because it cannot be certain of the rival's response to its price increase"); O'Brien and Salop (n 162) 622–625 ("the acquiring firm may be willing to sacrifice some nominal earnings in order to maintain greater control over a higher fraction of those earnings. [...] [It] would 'discount' the increased profits earned by the target [...] to reflect its inability to control the disposition of these profits.").

minority control on the part of "passive" common shareholders (e.g., index funds) may create some level of uncertainty and managerial entrenchment (vertical agency costs) and thus, may lead to only "partial internalization" of diffuse common ownership incentives as measured against the nominal level of shareholding.[263] Implicitly, (partial) control means more managerial discipline and less fear of opportunism or expropriation of shareholders by corporate management. However, (partial) control potentially comes with its own horizontal agency costs (private benefits of control): for instance, it cannot be excluded that *de facto* controlling shareholders-common owners solely act in their own interests without regard to and possibly to the detriment of retail, undiversified shareholders.

An entitlement without any measure of control is not a real property right.[264] This further suggests that different types of shareholders (common diversified versus individual undiversified) may not enjoy the same degree of certainty as regards their (pro rata) participation in the division of corporate profits as (a traditionally thought homogenous group of) residual claimants.[265] The theory of common ownership underscores that non-common shareholder expropriation is possible even in a setting of widely held public corporations, when ownership and governance structures are asymmetric (concentrated common ownership).[266] On the other hand, while diffuse common ownership "technically" also entails agency costs in that common shareholders presumably only take their self-interest into account in setting firm strategy (portfolio value maximization objective of the firm), this may ultimately not be to the detriment of undiversified shareholders in case they may share in the higher oligopolistic rents captured by the firms, they have invested in.[267] In such cases, shareholder interests within the firm appear to be aligned in two respects: i) as regards the firm objective function, and ii) in minimizing managerial agency costs generated due to the partial "separation of ownership and control".[268]

[263] See n 229-231 above and surrounding text.
[264] Alchian (n 216) 339 (interpreting "ownership" as the "bearing of value consequences of resources" and "control" as the "authority to control decisions that will affect [that] value").
[265] See n 223 above.
[266] See n 179 above and surrounding text. That is, expropriation of minority non-controlling (non-common) shareholders by *de facto* controlling (common) shareholders.
[267] See n 186 and 233 above and surrounding text.
[268] See n 227-231 above and surrounding text. Although the incentive to minimize managerial agency costs may be common among diversified and undiversified shareholders in principle, the degree to which this is beneficial to diffuse common owners may differ in that full elimination of such costs may not be optimal given their "passive", "portfolio-wide" competition and governance strategies as noted above.

Fourth, control over a firm's strategy may entail that the controller(s) may impose (fully or partially) her personal objectives onto the firm, or more generally what *objectives* are maximized by the firm and its management.[269] The controller's discretion arising from its decision-making authority may lead to a deviation from the presumably unanimous shareholder group objectives (firm value maximization).[270] Yet, in cases of diffuse common ownership, such self-interested deviation (portfolio value maximization) may be beneficial for other corporate actors and the firm as a whole so long as they may share in the supracompetitive rents, except for consumers that are worse off given the likely higher product market prices.[271] Common (controlling) and non-common (non-controlling) shareholders may thus "agree" on the altered objective function inside the firm as noted above. Remarkably, therefore, the mechanism as well as the competitive effects arising from diffuse common ownership are unilateral to begin with (softening of competition).[272]

Perhaps counterintuitively, minority non-controlling shareholders (in this case atomistic, undiversified investors) may not only benefit but may actually facilitate the anticompetitive effect.[273] This is a direct corollary of the "dilution effect" produced when a controller reduces the stake in the firm it controls compared to its parallel stake in a rival,[274] in combination with the "crowding-out effect" produced by the relative growth and power of common owners

[269] Karle, Klein and Stahl (n 133) 2; O'Brien and Salop (n 65) 609.
[270] See Figure 5 above as to how the firm objective function transforms under different models of "controllers", i.e., when corporate managers, diffuse common owners or concentrated common owners are in control of the firm.
[271] Azar, 'The Common Ownership Trilemma' (n 51) 271–275: "Under perfect competition and complete markets, economic theory provides two arguments in favor of profit maximization as the objective of the firm: one based on shareholder welfare and the second based on broader social welfare. [...] The other side of the Fisher Separation Theorem coin is that, when firms are not price takers, there is no reason why shareholders should agree about the objective of profit maximization. [...] with market power, the Fisher Separation Theorem does not apply, and shareholders may not agree on how to use that power. [...] the other side of the First Welfare Theorem is that, when firms are not price takers, maximizing profits does not lead to a Pareto efficient outcome. [...] The failure of the Fisher Separation Theorem under imperfect competition creates a problem for the theory of oligopoly: What is the objective of firms when shareholders do not unanimously want profit maximization? [...] While the problem of shareholder preference aggregation is quite challenging, it can be dealt with by relaxing the assumptions of Arrow's impossibility theorem. [...] Professor Julio Rotemberg, as well as Daniel O'Brien and Professor Steven Salop, assumed that firms aggregate shareholder objectives through a weighted sum of their utilities."
[272] See n 186-193 above and surrounding text.
[273] Anna Bayona, Ángel L López and Anton-Giulio Manganelli, 'Common Ownership, Corporate Control and Price Competition' <https://papers.ssrn.com/abstract=3784072> 10 ("the existence of minority shareholders facilitates the monopoly outcome: investors need to own a lower proportion of rivals' shares to sustain the monopoly price.") 18 ("the higher the proportion of minority shareholders with no control rights (or who are assumed not to exert their voting rights because their control is relatively negligible and face coordination problems), the lower the stakes of other firms that investors must own to maintain the monopoly outcome.").
[274] See n 184 above and surrounding text, and Gilo (n 67) 6: "the controller can enhance the anticompetitive effect of such passive investment by diluting its stake in the firm it controls (e.g., by selling part of the firm's stock to public shareholders [or other minority shareholders]). [...] when it is a firm's controller that invested in the firm's competitor, even relatively small levels of passive investment can raise considerable antitrust concern."

versus undiversified investors.[275] As diffuse common owners have more dispersed yet more symmetric stakes in competing firms[276] and as they grow in size and influence within corporate governance relative to other non-common investors,[277] then their relative interest (across firms) and relative influence (within firms) may dominate. While non-common shareholders seem to lose influence in the first instance (by having less or no "control weight" in a firm's objective function), their presence enables the implementation of common ownership incentives at low levels of shareholding, from which they may benefit themselves.

That is, diffuse common owners alter their own incentives and profit function by embracing "passive investment" strategies (portfolio diversification) but non-common owners make the "commitment" of diffuse common owners to potential anticompetitive strategies in oligopolistic settings (strategic motivation) "credible" even with small, passive minority shareholdings in competing firms, thus indirectly allowing the internalization of rivals' profits that leads to harmful competitive outcomes (increased market power).[278] In short, while common owners-controllers may dictate the firm objective function, the (partial) control mechanism becomes meaningful only when the relative proportions of common versus non-common owners suggest higher portfolio gains which can be maximized and shared among the two groups of shareholders, although not necessarily *pro rata* (as per the typical corporate law convention).[279]

Fifth, diffuse common ownership works against traditionally perceived single-firm concentrated control. The apparent division of (partial) ownership within a single firm and its (parallel) *diffusion* across rival firms among the same owners make the dilution of "sole control" and the (partial) "separation of ownership and control" not only inconsequential in terms of undermining anticompetitive effects but rather a lever for amplifying the likelihood and magnitude of their transmission. Essentially, diffuse common ownership marks a paradigm shift for the antitrust analysis and operation of product markets and corporate governance. The novel theory of harm associated with it relies on the parallel financial interests of common owners across *many firms* in the same industry at the same time and the joint minority control

[275] Posner (n 207) 4.
[276] Bayona, López and Manganelli (n 273) 11 ("The more the controlling investors of the other firms own stakes of each other, the more dispersed the ownership structure is, and the less the managers of other firms are interested in the profit of their own firm. [...] a more dispersed ownership structure pushes the controlling investor of firm i to own less stakes of firm i").
[277] Posner (n 207) 4.
[278] See n 188 and surrounding text.
[279] See n 192 above and surrounding text.

within each individual firm by *many investors* in their capacity as common shareholders.[280] Accordingly, the theory of diffuse common ownership transcends the boundaries of any individual firm or "single economic entity" (the basic unit of analysis in antitrust)[281] and goes beyond the "sole owner-controller" paradigm (the optimal standard in single firm governance).[282]

The potential anticompetitive harm flows, and its magnitude derives, from the *aggregate and similar* (if not identical) financial interests of common owners across multiple rival firms in a product market and their aggregate voting power as a *de facto* (homogeneous) group within firms.[283] The new paradigm of diffuse common ownership is thus premised on maximizing total portfolio profits as a strategic business objective and a "portfolio-wide" model of corporate decision making.[284] As such, the theory of diffuse common ownership cuts across established legal and economic forms and norms ("antitrust formalism")[285] and operates on a *de facto* level: the adverse market effect is *cumulative* and the mechanisms supporting it are *informal* in nature.[286]

It is illustrative in this context that control based on the shareholding size may be underestimating the competitive effects given pervasive diffuse common shareholdings in an oligopolistic market. For instance, in case of *fully symmetric* diffuse common shareholdings across rival firms by multiple investors, (partial) shared control by common owners may also effectively be complete control – (full) joint control by means of identical financial interests. In such cases, the level of individual shareholding or individual control in isolation may not provide realistic or accurate measures for conducting the competition analysis.[287] In contrast to mergers and joint ventures, however, the "integration" effected by diffuse common ownership is informal ("*effective" integration*). It leads to rivals' profit internalization merely due to common owners' broad investment diversification strategies within oligopolistic industries and not due to traditional "structural integration" of separate businesses into a single economic entity ("integration by hierarchy" à la Williamson). In turn, this may have deeper yet unexplored organizational implications. Diffuse common ownership raises the possibility that

[280] See n 47, 71 and 77 and surrounding text.
[281] See n 48-49 above and surrounding text.
[282] See n 72, 92 and 215 above and surrounding text.
[283] See n 85-86 above and surrounding text.
[284] See n 82 and 89 above and surrounding text.
[285] See n 46-47 above and surrounding text.
[286] See n 45 and 83 above and surrounding text.
[287] See n 234-235 above and surrounding text.

Williamson's idea of "selective intervention", thought impossible in the context of traditional mergers, may be attainable by means of *de facto* "partial mergers" due to diversified portfolio investments by diffuse common owners across firms.[288]

Sixth, public policy may face a "*dilemma*" rather than a "trilemma" as regards diffuse common ownership[289]: portfolio diversification in oligopolistic markets may possibly lead to both suboptimal competition and suboptimal governance outcomes (supracompetitive profits and managerial agency costs).[290] Indeed, partial common ownership and partial common control as depicted above may have implications not only for the interactions of firms and the functioning of product markets (partial internalization of rivals' profits and subcompetitive market outcomes) but also for the operational efficiency of business organizations (organizational slack and suboptimal managerial incentives).[291]

In other words, it is possible that both the profit maximization as well as the *cost minimization* objectives of the firm are affected by the combination of the partial "shareholder overlaps" among competing portfolio firms in oligopoly, the partial "separation of ownership and control" as between common shareholders and corporate managers within firms and the "portfolio-wide" governance model of common owners that characterize diffuse common ownership. In such environment of common ownership, atomistic competition and governance initiatives impose externalities on commonly held product market rivals. It may therefore be rational for diffuse common owners to "intervene selectively"[292] or engage to a lesser degree in the governance of individual firms, which may reshape the behavior and reduce the effort levels of management in minimizing the production costs of individual firms.[293] In this regard, the dimensions and extent of the relative problem posed by common ownership for firm competitiveness and productivity, and their potential interplay, are not well understood yet.[294]

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[288] See n 224-226 above and surrounding text.

[289] Azar, 'The Common Ownership Trilemma' (n 51).

[290] Antón and others (n 7) 27. See also n 215 above and surrounding text.

[291] See n 206-207 and 214 above and surrounding text.

[292] See n 225-226 above and surrounding text.

[293] Antón and others (n 7) 28: "When firms interact strategically in the product market, from the perspective of portfolio value optimization, it may be optimal for a common owner to act like a 'lazy owner,' a behavior that is often associated with bad corporate governance. In other words, good governance—in the sense of measures that promote efficiency and shareholder returns from the perspective of an individual firm imposes an externality on product market rivals. Therefore, common owners of product market rivals may optimally provide reduced levels of governance interventions, even though they lead to lower productivity, higher costs, and reduced operating performance of any individual firm."

[294] For an early attempt to empirically provide some bounds of such dimensions, see Backus, Conlon and Sinkinson, 'Common Ownership and Competition in the Ready-to-Eat Cereal Industry' (n 9).

B. Policy recommendations

In light of the above, competition policy and *merger control* need to adapt to the new common ownership reality if they wish to remain informed and relevant.[295] In specific terms, that means recognizing the two varieties of common ownership and taking into account their conceptual qualities, distinct supporting mechanisms and underlying assumptions when assessing competition effects and enforcing merger control law.

At the substantive level, a first step is to acknowledge the new competition concerns linked to diffuse common ownership based on an "effects-based" theory of harm (competitive influence) going beyond formalistic legal and economic constructs that lie at the foundations of merger control (e.g., control- and entity-centric models). As shown, diffuse common ownership makes some of the properties of control to lose their analytical vigor (symmetry of parallel holdings) while the mechanism that produces competitive harm, or efficiencies, is unilateral (altered firm objective function). Competition policy is thus called to embrace a novel unilateral effects theory for cases of diffuse common ownership that is flexible on the one hand but also delimited and administrable:[296] any competitive effects flow from the *altered incentives to compete*, due to diversification and the diffusion and (partial) collectivization of ownership it entails, combined with *some informal control*, due to the potential *de facto* aggregation of shareholder power in public, widely held firms, by diffuse common owners. Accordingly, the "*passive influence*" mechanisms uniquely associated with diffuse common ownership and their harm potential (i.e., *strategic* influence in the market interactions of oligopolistic rival firms and *actual* minority control by common shareholders that engage *selectively* or on a *portfolio-wide* basis in the governance of their commonly held firms) need to be explicitly acknowledged.[297] The analysis in this article has illustrated that the anticompetitive mechanisms of diffuse common ownership are not only theoretically plausible but may also be potentially material under the appropriate circumstances.

As a general matter, merger control should be open to new theories.[298] However, given the context specific manifestation of competitive harm, depending on the particular market,

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[295] On the implications of common ownership for merger control policy and enforcement, see Azar and Tzanaki (n 10).

[296] See n 43-45 above and surrounding text.

[297] See text preceding n 43 above.

[298] Carl Shapiro, 'Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets' (2019) 33 Journal of Economic Perspectives 69, 75, fn 5 (noting that if the claim that 'growing common ownership of rivals by financial firms has weakened rivalry in many oligopolistic markets [...] finds additional support in future research, it would provide an additional basis for a more stringent merger control policy').

ownership and governance structures within which the interlinked rival firms operate, a "case-by-case" approach to the analysis of common ownership is advocated.[299] On the one hand, it is clear that the current immunity privilege (*per se* legality) afforded to diffuse common ownership is not justified in light of its underlying "passive" internalization and transmission mechanisms that may induce harm yet imperceivable by traditional merger control thresholds (individual shareholding and standalone control levels) and measurement tools (standard HHI and market concentration measures).[300] On the other hand, a "rule-based" approach (*per se* prohibition) to diffuse common ownership (e.g., limiting investor specific diversification to certain ownership levels in rival firms in an industry) is likely ineffective, unable to discriminate between cases and it may also be easily evaded (e.g., by allowing institutional investors to restructure their portfolio of parallel holdings in rivals and further spread them across many formally separate but essentially similar index or other passive funds).[301] Thus any benefits of this approach in terms of simplicity, administrability and legal certainty for business and investors are overshadowed by its likely costs. In addition, the unique potential of diffuse common ownership to generate welfare increasing efficiencies (e.g., in view of positive technological or innovation spillovers) and the potential presence of countervailing factors such as managerial entrenchment or inter-industry common ownership that may

[299] Elhauge, 'Horizontal Shareholding' (n 10) 1303; Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 254–255 (providing guidelines and limiting principles on how to pursue "case-by-case" enforcement); Patel (n 12) 282–283 (supporting "a case-by-case approach that evaluates all relevant factors bearing on competitive effects [of common ownership]"); Tzanaki, 'The Common Ownership Boom - Or: How I Learned to Start Worrying and Love Antitrust' (n 38) 10 (proposing "case-by-case analysis" based on detailed enforcement guidance, together with "staggered legal change").
[300] See sections III.A and B above.
[301] Posner, Scott Morton and Weyl (n 174) 678-679, 708-710 (proposing a "structural" safe harbor limiting large institutional investors (fund families) to holding no more than 1% of an oligopolistic industry; alternatively, investors are to concentrate and limit their holdings in only 1 firm per industry); 724 (suggesting that their "proposal [may prove] insufficiently aggressive for at least two reasons: 1) there is a strong interactive effect of different mutual funds all having similar holding patterns"; 2) if their policy were to induce fragmentation of the mutual fund industry into hundreds of institutions, all below the 1% threshold while holding a fully diversified portfolio, the harmful patterns could still be replicated even if the effects were somewhat mitigated); Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 257 (noting that "the competitive effects of one shareholder's horizontal stock acquisitions depend on the horizontal stock acquisitions of others", thus rightfully "the Posner-Scott Morton-Weyl proposal, although more rule-like in form, ultimately does make the legality of individual horizontal stock acquisitions turn on the existence of others."; Romano (n 8) 401: (suggesting that Elhauge opposes fixed thresholds as per PSW's proposal because they are "both over-inclusive and under-inclusive"); Hemphill and Kahan (n 12) 1401 (showing that "blunt, wide-ranging reform proposals are likely to be ineffective and counterproductive. The most probable effects of these proposals are greater shareholder passivity and fragmentation of institutional shareholdings in portfolio companies in all industries, not just in concentrated ones. The proposals would thus be ineffective if passive mechanisms are responsible for anticompetitive results, and counterproductive because they reduce shareholder power and incentives to induce portfolio companies to increase their value where doing so is not anticompetitive.") and 1452.

mitigate the anticompetitive effects of within-industry common ownership are factors in favor of the "case-by-case" approach.[302]

To implement such open-ended approach, competition authorities will need to develop guidelines.[303] Guidance will need to crystallize the new theory of harm relating to diffuse common ownership and elucidate the relevant circumstances under which competition harm may be likely and substantial or any antitrust related efficiencies may be credited, in line with the preceding analysis. Furthermore, antitrust authorities will need to clarify and consolidate the set of critical factors that may affect merger control enforcement and the competitive assessment of cases involving concentrated or diffuse common ownership both as regards unilateral and coordinated effects. Among such relevant factors, consideration shall be given to *market or structural* factors (degree of product market concentration, nature of competition, number and type of rival industrial firms with or without common ownership links) as well as to *transaction specific or behavioral* factors (type and characteristics of common shareholdings, number and type of common owners in proportion to other undiversified shareholders within corporate governance, relative power or autonomy of corporate managers vis-à-vis common shareholders).[304] Also, it would be useful to define appropriate theoretical indicators, e.g., reflecting the relative level of ownership and control *asymmetry* (concentrated common ownership), or *symmetry* (diffuse common ownership), that may distinguish between the two varieties of common ownership and relate them to different unilateral theories of harm.[305] These and other relevant factors affecting the common owners' measure of control (control weights) and degree of internalization of rivals' profits (profit weights), which go into

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[302] See n 2, 6, 8 and 168 above and surrounding text. The presence of potential efficiencies also advocates for enforcement under merger control rather than antitrust laws on cartels (§1 Sherman Act or Article 101 TFEU) that adopt *per se* illegality rules and automatic nullity remedies. Besides, the type of economic analysis employed for the competition assessment of mergers is more closely fitting to that required in common ownership cases. See n 55 above and surrounding text, and Ariel Ezrachi and David Gilo, 'EC Competition Law and the Regulation of Passive Investments among Competitors' (2006) 26(2) Oxford Journal of Legal Studies 327, 345, 347.

[303] See Jean Tirole's keynote address "Competition policy at a crossroad" delivered during the 2019 OECD Global Forum on Competition: <https://www.youtube.com/watch?v=9Rymb1TUpEE>; and Jean Tirole, 'Competition and the Industrial Challenge for the Digital Age' [2020] Background paper for the IFS Deaton Review on "Inequalities in the Twenty-First Century" 23 (suggesting that "there is no need for new laws" as the spirit and objectives of existing antitrust and merger rules can address common shareholding concerns; but, "there is a clear need for guidance [...] that help[s] institutional investors to know what they are entitled to do and to benefit from some legal certainty [since the laws] do not address the details of what is allowable or not; neither have they pondered about enforcement (as an institutional investor's responsibility might depend on what portfolio other investors select). [...] Guidelines may be updated over time as new knowledge accrues about their consequences.")

[304] OECD, 'Antitrust Issues Involving Minority Shareholdings and Interlocking Directorates' (n 104) 9 (differentiating between "structural" and "transaction specific" factors that affect the anticompetitive unilateral or coordinated effects of minority shareholdings between rival firms); Ezrachi and Gilo (n 302) 345–347 (discussing relevant factors for merger control enforcement and the economic analysis of individual passive investments).

[305] See n 41-42 and surrounding text, and section II.A above.

the unilateral effects analysis of common ownership, are critical to devise and include in the guidelines.[306] Realistically, however, this guidance exercise will need time to mature and come into fruition as scholarship especially on the coordinated effects of common ownership is currently underdeveloped.[307]

The substantive assessment will also need to become tailored, according to the foregoing insights about the special nature of control (i.e., majority or minority control) underpinning each variety of common ownership. As noted, concentrated common owners have *disproportionate* control between their commonly held firms established on a *de jure* standalone basis (sole control). This type of majority control accompanying partial common ownership is captured by existing merger laws. In contrast, the appropriate benchmark for antitrust analysis of diffuse common ownership is *symmetric* common control established on a *de facto* aggregated basis (joint minority control).[308] These factual control situations are not explicitly recognized as problematic or comprehensively addressed under most merger control regimes (most prominently the EU regime being the most conservative one in terms of jurisdiction).[309] Merger policy and practice need to fill this gap.

In technical terms, this further means that existing analytical tools and structural screens that are applicable during merger control review may need to be finetuned and adapted. For instance, market concentration indices (e.g., MHHI)[310] will need to be further developed to account for richer "relative" (partial) control scenarios in practice (e.g., enhanced or disproportionate control of common owners relative to other shareholders, some managerial control).[311] This exercise will have to be conducted in line with appropriate economic models of corporate governance[312] and depending on the actual legal and economic context (e.g., legal model of corporate governance in specific jurisdiction, economic market environment) in each case.[313] More generally, merger practice should recognize situations of *de facto* joint control

[306] See n 16 and 62 above.
[307] See n 20 above.
[308] See section II.A above.
[309] See section II.B above.
[310] For the unilateral effects analysis of common ownership based on MHHIs and MGUPPIs, see Azar and Tzanaki (n 10) 16–39 (noting that traditional structural measures underestimate such effects).
[311] On the "relative" nature of control (i.e., factual, partial control vis-à-vis non-common shareholders, potentially shared with corporate managers) in diffuse common ownership cases, see n 221-231 above and surrounding text.
[312] On different corporate governance models of "controllers" (i.e., concentrated or diffuse common owners, or corporate managers), see Figure 5.
[313] See n 25-37 above and surrounding text.

that could be shown or estimated based on actual evidence (e.g., past voting patterns in annual general shareholders' meetings) and given the specific factual circumstances in each case.[314]

In other words, the "control analysis" in diffuse common ownership cases needs to become less fixed and formalistic, and more facts-sensitive while any quantification indices need to be more open to alternative corporate control assumptions. That is, any *factual* (e.g., *de facto* minority control by common owners as a group, potentially *de facto* shared with corporate managers) or *aggregated* corporate control dynamics (e.g., control of the interlinked rival firms by diffuse common owners established by aggregating shareholdings, either at the fund family level for big asset managers or across all passive, similarly diversified institutional investors in a given industry when individual funds or investors may exercise voting rights in a coordinated manner) would need to be duly taken into account alongside established notions of legal control. Such factual control could be quantified by employing and testing different assumptions going beyond the standard "*proportional control*" assumption (e.g., assuming *disproportionate* control by diffuse common owners vis-à-vis undiversified shareholders, that may effectively constitute a "majority of the minority" in firm governance, estimated based on Banzhaf voting indices).[315] On the other hand, if large blockholders are present and active within corporate governance, then as illustrated, diffuse common owners may possess *no control* at all (although their shareholdings are not formally "silent" and have proportional voting rights).[316] It follows that the control inquiry need not be set aside altogether but rather be made realistic in order to be able to reflect and encompass the actual workings between

[314] In a recent market investigation of the Hellenic Competition Commission in the construction sector involving common ownership concerns, evidence on actual voting patterns and participation levels in annual general shareholders' meetings were used to assess the *de facto* control ability of a common financial investor holding parallel stakes in the two major competitors in the industry. Based on such findings of factual control, MHHIs and MGUPPIs could then be calculated See First Interim Report: <https://www.epant.gr/en/enimerosi/press-releases/item/1374-press-release-market-investigation-in-the-construction-sector.html>.
[315] Azar, Schmalz and Tecu (n 1) 1545 (using Banzhaf voting power indices as an alternative to calculate the MHHI); O'Brien and Salop (n 65) 570 (noting the potential "disproportionate control" of relatively larger minority shareholders that may jointly control the outcome in line with Banzhaf theoretical analyses). Unlike "proportional control" that mechanically equates control rights to equity interests, "Banzhaf control" estimates the actual (disproportional) voting power and likely influence of common shareholders that are considered pivotal in possible voting coalitions. Thus pursuant to the Banzhaf index, as their participation percentage in the voting nears 50% (majority control), their control is thought to actually approximate total control (100%). That is, they are the ones who call the shots as they have the decisive vote despite holding nominally minority positions, given the dispersed structure of the shareholder base (e.g., in large public corporations).
[316] O'Brien and Salop (n 162) 622–625 (suggesting "discounting for non-control" when estimating the competitive effects of *de facto* "non-controlling" minority shareholdings based on the MHHI). A similar rationale could apply to common shareholdings ("discounting" nominal shares and profit weights in firms where common shareholders have no control) that in theory come along with proportional voting rights but in practice those are canceled off by the presence of larger controlling shareholders.

actors within corporate governance, which impact upon the degree and ability of common owners to "internalize rivals' profits".

In terms of process and in line with the above insights, taking into account common ownership as an "element of context" during regular merger review of transactions between portfolio companies and also expanding reporting requirements for common institutional ownership, by requiring filings based on "aggregated shareholdings" of affiliated individual funds within the same fund family are steps into the right direction.[317] Such approaches enable us to ensure that we have a clearer understanding in the short term of the actual industrial and financial setting in which merger control enforcement takes place and also of the real-world dimensions of the common ownership problem. First, ancillary analysis of common ownership during merger review of notified transactions involving commonly held companies in oligopolistic industries may indeed counteract or completely reverse the substantive assessment findings of a regular merger compared to a counterfactual with no common ownership.[318] Second, reporting obligations based on aggregated fund family shareholdings not only allow us to track the evolution of common ownership that may be hardly perceivable otherwise but also grasp and recognize the particular mechanics involved in diffuse common ownership cases (i.e., *de facto* aggregation of shareholder control) as explained above.[319]

The real challenge for competition policy and merger control enforcement is tackling the cumulative anticompetitive effects produced by diffuse common ownership. That is, regardless of the specific *corporate control* dynamics, diffuse common ownership raises the real prospect of "hidden" industrial *market control* by common institutional investors (market power) that is the ultimate concern of antitrust and merger control.[320] The challenge is unprecedented because as shown market control in this case may be achieved by unconventional means (e.g., by altering the firm objective function) meaning on the one hand that the anticompetitive mechanism is unilateral[321] while the anticompetitive effects are aggregate and compound.[322] In

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[317] This is the direction EU and U.S. antitrust agencies respectively are moving towards. See n 22-23 and 129-130 above and surrounding text. For how ancillary review of common ownership may occur during scrutiny of notified mergers of portfolio companies, see Azar and Tzanaki (n 10).

[318] ibid 44: "The incremental effect of a merger taking place in an environment of common ownership may be either smaller or larger by comparison to a counterfactual with no common ownership [...] depend[ing] on the relative post-merger stakes of the common shareholders in the merging firms vis-à-vis any stakes in non-merging rivals in the same industry as well as on the specific financial [cash or share] structure of the merger deal."

[319] See n 86 above and surrounding text.

[320] Posner, Scott Morton and Weyl (n 174) 669-670 and 724: "If historical trends continue, a handful of gigantic institutional investors will one day share control of product markets in dozens of oligopolistic industries."

[321] See n 186-193 above and surrounding text.

[322] See n 83 and 251-254 above and surrounding text.

other words, any control or influence over market competition due to widespread common shareholdings between rival firms is informal. This practically means that traditional structural indicators (e.g., number of firms in an industry, market shares, market concentration indices) are not fit to capture actual firm interactions and product market dynamics.[323] Therefore, a direct conclusion from the preceding analysis is that if antitrust authorities wish to incorporate merger control enforcement screens addressing diffuse common ownership cases in their guidelines, those screens or soft safe harbors will need to be aggregate (covering the potential extent and effect of all common investors combined in a given market) or "market-wide" (e.g., considering, by analogy to exclusive dealing arrangements, whether the aggregate market foreclosure effect is substantial).[324] This is in contrast to existing merger control safe harbors that are designed under a paradigm of merging into a single entity ("structural" integration) based on "single firm" dominance and "individual investor" activity.[325]

Thus, *"market-wide" safe harbors* shall aim at capturing the aggregate *industry-wide effects* of diffuse common ownership ("effective" integration due to diversification[326]) and counterbalance the (in)ability to effectively address them via screens and thresholds that are firm specific, control-centric or based on individual shareholding size.[327] In practice, this may mean introducing in the medium term residual *ex post* merger control enforcement in cases of

[323] Case M.7932 *Dow/DuPont*, Commission decision of 27 March 2017, Annex 5, para 4: "concentration measures, such as market shares or the Herfindahl-Hirschman index ("HHI"), are likely to underestimate the level of concentration of the market structure and, thus, the market power of the Parties."

[324] Elhauge, 'Horizontal Shareholding' (n 10) 1308–1309 (suggesting that the "collective" anticompetitive effect from all common shareholdings by multiple institutional investors in concentrated markets may and should be liable under the U.S. merger control law, and arguing that the timing of merger control enforcement could shift to *ex post* review for shareholding acquisitions that may have been initially legal but could be challenged later given the aggregate anticompetitive effect created by these and subsequent common shareholding acquisitions - by analogy to exclusive dealing when a series of agreements make the aggregate foreclosure share substantial); Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 256–258 ("U.S. [merger] law is crystal clear that an initially legal stock acquisition becomes illegal if subsequent events mean that continuing to hold the stock would have anticompetitive effects. [...] enforcement actions against anticompetitive horizontal stock acquisitions need not imply rapid shifts from legality to illegality based on subsequent stock transactions and the mechanical application of an MHHI test. Illegality would instead require a showing [of] adverse price effects for some significant time period, giving horizontal stockholders plenty of time to divest themselves of stockholdings that seem likely to contribute to such adverse effects.").

[325] See n 81-83 above and surrounding text.

[326] See n 288 above and surrounding text.

[327] For the problems associated with standalone reporting thresholds for partial ownership acquisitions, see Moss (n 39) 12 (stressing that *de minimis* thresholds or safe harbors for *ex ante* merger enforcement may create strategic incentives for investors to circumvent the spirit of the law in two ways, i.e., they induce investors: i) to fragment their partial ownership in smaller individual stakes but held in multiple rivals that in aggregate may have the same market effect; ii) to initially acquire partial ownership stakes in rivals that compete in 'closely' related markets but later encourage their post-acquisition 'repositioning' into the same market. In both cases, partial common investors have strong incentives to maximize profits, potentially leading to monopolistic or collusive outcomes).

materially harmful diffuse common ownership,[328] to minimize a "major blind spot" in antitrust enforcement.[329] To the extent possible, this should be done in a predictable way, by providing some guidance to business actors so they may self-assess their own investment strategies and activity in context. In short, aggressive merger control enforcement against market-wide or aggregate effects of diffuse common ownership should be possible based on rigorous economic evidence but competition authorities need to develop clear guidelines for that purpose.

This industry-wide "structural approach" will naturally entail some antitrust risk for financial and institutional investors with parallel investments in multiple competing firms (such as index funds), even if those are "passive" from a financial investment perspective and hold "small" positions in themselves. Yet, this may be an unavoidable side effect linked to the portfolio-based business model of such investors and may be justified from a policy perspective on welfare grounds in cases shown that the anticompetitive effects may be overwhelming compared to any likely efficiencies (balancing the public versus the private interest). Alternatively, market-wide safe harbors may be combined with or complemented by behavioral filters that may single out *truly passive* investors with parallel investments in multiple rivals, which are *not voting* their shares ("silent").[330] The premise is that such passive investors presumably do not have any corporate (voting) control or influence over their commonly held firms to implement any anticompetitive incentives that may flow from their common ownership stakes.[331] The drawback of such behavioral safe harbors (e.g., voting prohibition for diffuse common owners) is that they may not address other channels or mechanisms of anticompetitive influence that do not operate through voting (e.g., contractual mechanisms such as executive compensation packages that align the incentives of corporate managers with those of common shareholders). Similarly, investors could commit to "purely passive"

[328] Elhauge, 'Horizontal Shareholding' (n 10) 1308–1309 (suggesting the possibility of *ex post* enforcement under U.S. merger law against "passive" investors with common shareholdings in rivals on the basis of actual anticompetitive effects); Ezrachi and Gilo (n 302) 348–349 (proposing *ex post* merger control enforcement under EU law against individual passive investments in rival firms "in markets in which the level of concentration and the level of passive investment exceed a pre-defined threshold").

[329] Baker (n 10) 212 (noting that empirical research on common ownership "raises the possibility that a modern-day antitrust loophole or blind spot has similarly [to the merger-induced 'giant wave of industrial consolidation'] been allowing firms to exercise market power across the economy.").

[330] Elhauge, 'Horizontal Shareholding' (n 10) 1314–1315 (suggesting two options for large investors to minimize the risk of antitrust liability in concentrated markets: i) refraining from horizontal investments altogether (investing in only one firm in an oligopoly); or ii) committing not to vote their stock or to vote it in proportion to how nonhorizontal shareholders vote). See also Lund (n 244) (arguing from a firm-specific governance perspective in favor of "restricting passive funds from voting at shareholder meetings" to "reduce [their increasing or even pivotal] influence in governance").

[331] Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 256: "a stock acquisition can be solely for investment [under U.S. merger law] only if the investor does not vote or otherwise influence corporate behavior at all, which is rarely the case for leading horizontal shareholders".

ownership by "putting their shares in the drawer"[332], i.e., only mechanically voting their shares and not engaging in corporate governance in any other way.[333] Yet, such behavioral commitments do not necessarily or fully eliminate any antitrust risk.[334] Importantly, they may also have adverse unintended consequences on corporate governance (e.g., *de facto* empowering activists and other non-common investors with disproportionate voice and influence ability, increasing potential managerial agency costs).[335]

In any event, behavioral screens would also need to apply across the board to all rather than a single common owner-individual fund or fund family.[336] As other diffuse common owners have similar and parallel interests, their voting and behavior is likely to be aligned according to their portfolio interests.[337] In this light, structural market-wide thresholds or solutions (e.g., limiting within-industry diversification to certain levels for all investors) are more likely to effectively address the root causes of the problem diffuse common ownership creates for competition and any side effects of behavioral solutions that fully undercut governance activity by institutional investors.[338] Relatedly, a further behavioral solution is disaggregating any

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[332] Romano (n 8) 381-382, 397, 402.

[333] Posner, Scott Morton and Weyl (n 174) 722 (putting forward, besides their "structural" safe harbor, a "purely passive" option for common investors (index funds) to avoid antitrust liability, pursuant to which they shall commit to engage in no communication with top managers or directors, to vote their shares in proportion to existing votes so that they have no influence in any corporate governance decision, and to own and trade stocks only in accordance with clear and non-discretionary public rules (matching an index). The rationale for their proposal is that "institutional investors can affect competitive outcomes only by exercising control over operational firms, and control requires communication and voting or the ability to sell the shares of the firm", therefore, any weaker form of "passivity" (such as the one currently used under U.S. merger control) will not effectively restrict common owners from affecting corporate governance.)

[334] Elhauge, 'Horizontal Shareholding' (n 10) 1305–1309, 1315 (suggesting that the antitrust risk is not eliminated "because nonvoting stock might still influence management in anticompetitive ways": e.g., if managers take into account the interests of non-voting common shareholders out of fear that otherwise they will sell to others in a corporate takeover attempt or will "not support the managers' hire at subsequent corporations"); Hemphill and Kahan (n 12) 1452 fn 168 (noting that if "committed" managers attend to the interests of their shareholders out of their own accord, and not due to self-interest, "it is unclear if anything can be done to reduce the anticompetitive effects of common ownership"); Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) (showing that "voting" and "tradable" stock even if relating to minority shareholdings is not really passive in the antitrust sense).

[335] Romano (n 8) 402 (highlighting this problem which in turn entails that "the relationship between control rights and cash flows would completely break down"); Elhauge, 'Horizontal Shareholding' (n 10) 1315 (noting that "having institutional investors refrain from voting increases the separation of ownership and control in a way that harms corporate governance and efficiency on a host of issues that do not raise anticompetitive concerns"); Coates (n 25) 21 (analyzing perverse corporate governance consequences of restricting voting by index funds).

[336] Posner, Scott Morton and Weyl (n 174) 724 (underscoring "the strong interactive [anticompetitive] effect of investment funds with similar holdings patterns" that their investor-specific [structural] proposal may not effectively address); Lund (n 244) 528 (noting the "first-mover disadvantage to abstaining from voting" [the least costly governance activity] and the public disrepute involved if other passive funds continue to vote, which means that "unless all passive funds collectively gave up their voting rights, it is unlikely that any one institution would voluntarily choose to do so").

[337] See n 44 and 86 above and surrounding text.

[338] To be sure, diversification limits would also undermine any stewardship incentives by passive funds but to a lesser extent than a complete ban on voting or other governance practices. See Coates (n 25) 21 (suggesting that

centralized voting practices by large asset managers (e.g., requiring that each fund within a fund family votes its own shares).[339] While in principle this is set to undercut the joint minority control mechanism underpinning diffuse common ownership , in practice this solution too may be circumvented by institutional investors informally or tacitly coordinating their voting and governance activities.[340]

Another possible "structural" solution in diffuse common ownership cases is re-concentrating ownership for each individual investor in a single firm operating in each concentrated product market.[341] This option would allow investors to tap on the benefits of diversification by diversifying their portfolio of investments across industries while eliminating competition concerns and also restoring canonical "sole owner", "firm specific" corporate governance.[342] This solution is meant to essentially transform common ownership that is "diffuse" in nature into the "concentrated" variety.[343] It follows that the most promising and likely effective means to eradicate the competition risk of diffuse common ownership is to reshape or transform it, either by limiting within-industry diversification across the board or by re-concentrating ownership in individual firms (i.e., no diffusion of ownership and no dilution of control).[344]

In view of the above insights, sensible competition policy should not lose focus from the overall market effect by overly zooming into the (single firm) governance mechanics, important as they may be. Once one decides to be a "*partial*" common owner in an oligopolistic market, it

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structural limits on index funds would negatively affect their incentives to monitor or act to improve portfolio company value and the challenge of balancing this effect against "the corporate governance benefits of increased monitoring that flow from less dispersed [common] ownership"); Romano (n 8) 402 (noting that such solutions would in practice undo decades of corporate governance reforms aiming to induce institutional investors to become marginally more engaged owners).

[339] Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 74 (noting that the diversification benefits could remain without harm for individuals investing in various index funds even at the same fund family if: i) the funds' managers were incentivized to maximize only the value of their fund; and ii) the fund family allowed each fund manager to vote separately, rather than (as presently) voting all their shares at the fund family level).

[340] Coates (n 25) 13–15.

[341] See Posner, Scott Morton and Weyl (n 174) 708 (being the first to put forward this proposal).

[342] Elhauge, 'Horizontal Shareholding' (n 10) 1314–1315 (noting that this proposal would entail "only a minimal loss of diversification benefits [but would] give institutional investors a greater share of corporate voting power in the firms in which they do invest, [thus] lessen[ing] the separation of ownership and control, improv[ing] management efficiency and benefit[ing] shareholders without harming competition and consumers"); Elhauge, 'The Causal Mechanisms of Horizontal Shareholding' (n 7) 72–74; Posner, Scott Morton and Weyl (n 174) 711 and 714 (suggesting that common [institutional] ownership "reduces the incentives of institutional investors to compete on the quality of their corporate governance because their rivals benefit when corporate governance improves. [Hence], concentrated ownership will ameliorate the problem [by] giv[ing] them greater incentives to actively govern the firms in which they have ownership"); Baker (n 10) 229 (noting that within-industry diversification benefits to financial investors holding shares in competitors are limited, because industry profits and equity values are highly positively correlated, while ironically, if common ownership lessens competition this increases the positive correlation and further lessens the diversifications benefits).

[343] See n 215 above and surrounding text.

[344] See n 76-77 and 81-83 above and surrounding text.

is also to bear the risk (rather than consumers and society) of potential anticompetitive effects and hence enforcement action arising from later strong interlocking shareholding links that *collectively* undermine competition in the pursuit of private self-interest (of common owners and potentially other corporate actors).[345] Such a public policy stance not only enables competitive harm to be remedied *ex post* in the specific case (enforcement) but most importantly, it induces private economic agents to internalize the law prohibition effect *ex ante* (deterrence).[346] It is therefore more likely that their investment and governance behavior will be shaped accordingly. The task of guidelines is precisely to flag theoretical and factual conditions under which enforcement action is likely to be expected (e.g., highly concentrated markets, high levels of common ownership, substantial extent and proof of aggregate anticompetitive effect).[347] Investors are likely to know for example the extent to which a given market is oligopolistic or whether there are other similarly diversified investors present in the firms in which they invest. Furthermore, lack of any antitrust enforcement against diffuse common shareholdings (e.g., by preserving their present *de facto* immunity status) is only to make the antitrust problem bigger, meaning that even more drastic solutions may be required at a later time to ensure operation of competitive markets.[348]

It is interesting at this point to compare and contrast the new role antitrust is propelled to embrace given the distinct remedial solutions it may offer against the concerns associated with each variety of common ownership. On the one hand, diffuse common ownership and its potential aggregate anticompetitive effects call for structural solutions at the market (rather than the firm) level by competition policy and enforcement, in direct proportion and as a counterbalance to the portfolio-wide corporate governance and financial investment model of passive institutional investors. This state of affairs brought about by financial innovation and rampant market developments may mark the end of "*atomistic* antitrust" as we know it. On the

[345] That is, the risk of *changed* circumstances subsequent to any individual "partial" stock acquisition is born by investors in cases of *substantial* cumulative impact on competition.
[346] For the continuous possibility of *ex post* merger enforcement against partial acquisitions in the U.S., see Scott Morton and Hovenkamp (n 78) 2045, 2047 ("the competitive effects of partial stock acquisitions (in contrast to complete acquisitions that create a single firm, and the antitrust laws apply only to the 'acquisition'), including horizontal shareholding, can generally be appraised as of the time of the lawsuit. This entails that the challenge is not merely to the 'acquisition,' but also to post-acquisition performance or behavior. Section 7 enables the antitrust enforcement agencies to reach back in time and aggregate small purchases, which is critical in enforcement against institutional investors that slowly accumulate large positions over time."); Daniel A Crane, 'Antitrust Antifederalism' (2008) 96 California Law Review 1, 53 (noting that prior to the pre-merger notification system introduced by the HSR Act, the government often relied on post-merger evidence of supracompetitive pricing by the merging firms to prove a merger's adverse market effects, and that such suits still occur today, but are rare).
[347] Elhauge, 'Horizontal Shareholding' (n 10) 1301; Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 248-249, 258.
[348] Elhauge, 'Horizontal Shareholding' (n 10) 1283.

other hand, potential concerns in concentrated common ownership cases pertain not only to adverse effects for product markets but also for undiversified investors of individual commonly held firms. To the extent non-common shareholders may be harmed by the asymmetric ownership and control structures created by concentrated common ownership, and corporate law rules and principles such as fiduciary duties cannot provide adequate relief, antitrust may offer an alternative intra-firm remedy against potential conflicts of interests. As such, antitrust emerges as an instrument of "*investor* protection" (ancillary and parallel to consumer protection) that is called to address and rebalance the allocation of property rights among different groups of shareholders inside the firm.[349] These insights reveal that both varieties of common ownership demand a "structural approach" for the effective resolution of any concerns (i.e., internalization of common ownership externalities) precisely due to their primarily "structural" nature (altered incentives to compete due to changed ownership structures).[350] The difference is that such structural approach operates at the level of the market in case of diffuse common ownership (industry ownership and structure) whereas inside the firm in case of concentrated common ownership (corporate ownership and structure).

A broader and more challenging question remains as to what extent the design of merger control regimes and their different applicable jurisdictional thresholds should be amended to reflect common ownership concerns. Going past substantive and remedial issues, that appear uniform in principle although potentially variable in application depending on the empirical evidence in the specific case, it is a more demanding task to offer country specific recommendations on the appropriate jurisdictional scope of merger control. This requires not only a better economic understanding of the issue at hand, that ongoing empirical research and this article aim to advance, but also accounting for further complex legal and institutional considerations, all of which may differ considerably from jurisdiction to jurisdiction. For that purpose, an in-depth and tailored cost-benefit analysis will need to be conducted in order to evaluate the size of gaps and inconsistencies in the law, different options for reform and balance them against the likely value of extended *ex ante* or *ex post* merger control jurisdiction in the specific (legal, administrative and market) setting of various jurisdictions.[351] Discussions over merger control reform towards this end have been taking place at EU level during two recent public consultations concerning non-controlling minority shareholdings while the issue had

[349] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 26–27.
[350] See n 156 above and surrounding text.
[351] See n 25-37 above and surrounding text.

also been reviewed some twenty years ago.[352] While these policy initiatives have not been translated (yet) into concrete action, it is critical to note that the analysis merely focused on *standalone* shareholdings. As shown throughout this article, the competition assessment and any cost-benefit analysis regarding the size of the problem versus solutions may be considerably different in case of *diffuse* common shareholdings (i.e., multiple, parallel, symmetric holdings in rivals within a given product market). Thus, findings in those previous consultations are without prejudice to any policy conclusions to be drawn as to the proper merger control design in light of the contemporary debate on the common ownership issue.

Besides, the analysis in this article has crystallized some useful points as regards jurisdiction. To begin, it has become clear that U.S. merger control is flexible to capture any anticompetitive partial acquisitions, even if based on pure incentives and actual unilateral effects.[353] However, other merger control regimes that may flexibly and pragmatically rely on joint *de facto* (Germany, UK) rather than *de jure* control (EU) as a jurisdictional criterion could also capture diffuse common ownership under a teleological interpretation of the law.[354] On one level this means that merger control reform and any legislative change may be more minimal than often portrayed: so long as *de facto* control is assessed on an informal and cumulative basis,[355] merger control jurisdiction may be apt to address the changed incentives to compete associated with diffuse common ownership that may in turn lead to durable market power and competitive harm. At the same time, the current EU interpretation of a "stable coalition" or "strong common (strategic) interests" to establish jurisdiction based on *de facto* joint control appears to be mechanical, formalistic, and obsolete. Given the systemic and *de facto* identical character of diffuse institutional common owners (even if their specific identity is different), their symmetric holdings (even if individually small and dispersed across firms) and their similarly exercised voting rights (potentially forming a *de facto* minority voting bloc with effective firm

[352] Commission Staff Working Document (n 111); White Paper (n 102); and Green Paper (n 101).
[353] Elhauge, 'Horizontal Shareholding' (n 10) 1305–1309.
[354] See section II.B above, and Note by Germany (n 116) 7: "Since investors could be presumed as having equal interests up to a certain degree and since there could be ties between diversified investors, [antitrust agencies could] aggregate the shares of all institutional investors involved in a company that are equally diversified within the industry, if such equal interest can be assumed. This would be similar to an *actual* form of minority control, in which several minority shareholders effectively control a company through *joint* action. From a merger control perspective, common ownership by institutional investors could be regarded as a passive form of strategic influence, where even small shares could allow investors to have a decisive impact on their portfolio companies' decisions."
[355] See n 296-297 above and surrounding text.

control), the *ratio legis* suggests that the rigid EU merger control definition of joint control as well as the applicable Jurisdictional Notice require updating in this regard.[356]

Further suggestions are offered as regards the appropriate jurisdictional design of merger control considering the issue of common ownership. These look to the EU regime as their primary target given that it is the most conservative among those examined in this article.[357] Yet, the recommendations and general approach proposed may also be incorporated in other merger systems, as adapted to the realities of each jurisdiction. Accordingly, a "*staggered approach*" to competition law intervention and merger control enforcement against potentially problematic cases of common ownership is proposed, including both *ex ante* and *ex post* review.[358] The potential and timing of merger control review will depend on the likely foreseeability and significance of concerns flowing from individual shareholding transactions (sole corporate control), the verifiability of *de facto* coordinated or aligned voting and governance engagement by common shareholders (joint corporate control), and the substance and ability to prove aggregate adverse effects on competition by multiple, diffuse common shareholdings (cumulative market effects).[359] In this framework, *ex ante* review continues to be employed for "active" standalone investments that involve sole control (concentrated common ownership). *Ex ante* review is also employed for "passive" joint investments where *de facto* joint control (diffuse common ownership) may be established based on the facts (German model).[360] *Ex post* scrutiny is reserved for "passive" joint investments (diffuse common ownership) that produce significant cumulative anticompetitive effects (U.S. model).[361] This staggered approach is characterized by its comprehensive scope and flexibility to address plausible and material situations of competition harm while aiming to minimize administrability and legal certainty concerns. Seen from another vantage point, *ex ante* review still targets particular corporate forms that the different varieties of common ownership may create whereas *ex post* review looks at the substance and the actual competition effects produced by diffuse common ownership.[362]

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[356] See n 106-110 above and surrounding text.
[357] See Figure 4 above summarizing they key similarities and differences between merger control regimes as regards jurisdictional thresholds and criteria.
[358] Tzanaki, 'The Common Ownership Boom - Or: How I Learned to Start Worrying and Love Antitrust' (n 38) 10; Tzanaki, 'The Legal Treatment of Minority Shareholdings Under EU Competition Law' (n 108) 885–886.
[359] Tzanaki, 'Common Ownership and Minority Shareholding at the Intersection of Competition and Corporate Law' (n 56) 20 (offering an interpretation of U.S. merger law in line with these criteria).
[360] See n 354 above and surrounding text.
[361] See n 353 above and surrounding text.
[362] See n 46-47 above and surrounding text on the issue of antitrust formalism.

To recap, a narrower delimitation of the "passive investment" safe harbor as well as a more flexible, fact-based interpretation of the "joint control" criterion are advocated with reference to *ex ante* merger control jurisdiction. At the same time, no immunity privilege to any future post-acquisition anticompetitive "conduct" is to be afforded in view of pervasive diffuse common ownership patterns. *Ex post* enforcement may thus be justified in this case given the breadth and magnitude of the competition effects within a given oligopolistic industry.[363]

Although *ex post* merger scrutiny is uncommon today given the *ex ante* merger notification and approval system adopted by most merger control regimes, it historically preceded such a system.[364] In fact, *ex post* review remains an available enforcement option against partial acquisitions in certain jurisdictions (U.S.), whereby not only the "acquisition" but also "post-acquisition performance" is liable under antitrust law for any harmful effects on competition.[365] The EU doctrine of collective dominance offers a potential alternative route for *ex post* enforcement against any aggregate effects of diffuse common ownership.[366] But merger control seems a preferable option given the "structural" nature of the common ownership problem, the potential countervailing efficiencies associated with it, and the fact that the type and tools of economic analysis employed to assess common ownership are similar to those applied to mergers.[367] Besides, it appears that the public enforcement will is missing to employ less flexible antitrust rules and procedures to tackle minority or common shareholding concerns.

In any event, starting with and tapping on their experience with *ex post* review, competition authorities may be able to re-assess over time whether there is need to move to a more vigilant regime requiring advance notification for diffuse common ownership cases across the board

[363] It would be interesting to investigate *ex post* via merger retrospective analysis whether mergers that have taken place in an environment of common ownership in oligopolistic markets are more likely to have anticompetitive effects. This exercise may further help clarify the competitive implications of common ownership and also boost confidence in the analytical tools employed (MHHI and MGUPPI) to assess the effects of horizontal mergers and common ownership cases. See Elhauge, 'How Horizontal Shareholding Harms Our Economy - And Why Antitrust Law Can Fix It' (n 85) 280; Azar and Tzanaki (n 10). On merger retrospectives, see FTC's Bureau of Economics to Expand Merger Retrospective Program, September 17, 2020: <https://www.ftc.gov/news-events/press-releases/2020/09/ftcs-bureau-economics-expand-merger-retrospective-program>; and John Kwoka, *Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy* (MIT Press 2015).
[364] Crane (n 346) 53.
[365] Scott Morton and Hovenkamp (n 78) 2047.
[366] On the "effects-based" definition of collective dominance and the potentially broad outer limits of this doctrine, see Giorgio Monti, 'The Scope of Collective Dominance under Articles 82 EC' (2001) 38 Common Market Law Review 131 (noting that the same definition applies under the EUMR, but under the merger rules, the Commission can prevent the *creation* of collective dominance, while under Article 102 TFEU they can only address the *abuse* of a collective dominant position); Tzanaki, 'The Regulation of Minority Shareholdings and Other Structural Links between Competing Undertakings' (n 20) 174–188.
[367] See section II.A above, and n 156 and 302 and surrounding text.

(e.g., the newly proposed U.S. merger filing obligation based on aggregated fund family shareholdings).[368] Step-by-step progression in merger enforcement practice in line with developing academic scholarship is the most promising way for well-informed and enduring reforms. As the adage goes, confidence comes with experience.

V. Epilogue

The last word on common ownership has not been written yet. Empirical research studying (i) common ownership in and across different industries, (ii) the corporate governance dynamics between different groups of shareholders and the power of shareholders versus managers, and (iii) *ex post* merger reviews will assist shedding light on the nebulous landscape surrounding common ownership, in particular the extent of potential or actual effects and precise mechanisms at play. If anything, this article aims to provide structure to those who may wish to pursue such exercise. By clearly differentiating between the two varieties of common ownership – the concentrated and the diffuse – this exposition may also provide a guide to policymakers as to how they may wish to finetune competition policy and merger control enforcement to be flexible and open to tackle the full range of common ownership concerns.

If cautionary tales and policy recommendations would come in headlines, those would include the following. Small (shareholding) is not necessarily innocent. Voting (stock) is not really passive. Individually harmless (shareholding links) may be in aggregate harmful. Diffuse common ownership may easily go under the radar of most existing merger control regimes as they are premised on a paradigm of a "single firm dominance" in the market and a "single blockholder investor" within governance, that nevertheless neatly fits the concentrated common ownership variety. Smart merger control design would need to steadily adjust its analytical and jurisdictional tools to capture the newly revealed dynamics.

[368] German merger control has matured through such a path: a residual jurisdictional threshold of "significantly competitive influence" (to capture any form of potentially problematic structural links between undertakings) was initially introduced as an *ex post* regime but later incorporated into the ordinary *ex ante* merger control and notification system. OECD, 'Definition of Transaction for the Purpose of Merger Control Review' (n 98) 90.