Article

The Vast Space in Which the Vertical Merger Guidelines Lived

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Abstract

The thesis of this article is that the gap left by the abandoned *Vertical Merger Guidelines* (*VMGs*) is small, and that the gap should not be filled until a sound foundation for guidelines is built. The *VMGs* operated with a narrow scaffolding in a vast space of real-world decisions and a continuum of organizational forms. The illustrations in the *VMGs* were based on pricing models that show that anticompetitive exclusion may result from vertical mergers. But these models are incapable of generalization, and they do not account for investments, market uncertainty, contracting problems, information asymmetries, and governance issues. Perplexingly, the *VMGs* ignored research that considers such factors and illuminates a broad range of empirically verifiable efficiencies. The requisite foundation for effective vertical guidelines is not in place. Until it is developed, replacements will fail to screen vertical mergers that do not raise concerns and will not be of assistance when mergers are challenged. Antitrust scholars could advance the foundational work by developing authoritative briefs on topics such as anticompetitive exclusion, asset-specific investments, incomplete contracts and opportunistic behavior, information asymmetries and principal–agent problems, the purposes and effects of restrictive contracts, and the implications of network economies for the scope of firms.

Keywords

vertical merger guidelines, vertical integration

I. Introduction

Important questions follow from the decisions by the Federal Trade Commission (FTC) and the Department of Justice (DOJ) to abandon the *Vertical Merger Guidelines* (*VMGs*)[1]: How much of a void is left? Should the *VMGs* be replaced? These questions should be answered bearing in mind that useful

1. The DOJ and FTC adopted the 2020 *Vertical Merger Guidelines* on June 30, 2020. These superseded the portions of the *1984 Merger Guidelines* that dealt with vertical mergers. See Department of Justice and Federal Trade Commission (2020). The FTC and the DOJ withdrew the *VMGs* in the second half of 2021. Various forms of guidelines for vertical mergers and vertical restraints have been in place since 1968.

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guidelines serve multiple purposes, including (1) screening proposed mergers into those that should not be challenged and those that should be investigated, and (2) aiding litigants and the Courts when mergers are challenged. The thesis of this article is that the gap left by the now defunct *VMGs* is small and not worth filling until a sound foundation for them is established.

While the prospect of having no guidelines is uncomfortable, especially when federal authorities have shifted to a more aggressive enforcement stance, the best approach going forward is to rely on the Courts to develop more comprehensive jurisprudence on the full range of alternative organizational arrangements related to vertical integration. Such jurisprudence exists for the *Horizontal Merger Guidelines* (*HMGs*), but appears lacking for vertical mergers. Antitrust scholars could assist this process by developing briefs on topics that are central to understanding the organizational choices that firms make on an ongoing basis, including (1) anticompetitive exclusion, (2) asset-specific investments, (3) incomplete contracts and opportunistic behavior, (4) information asymmetries and principal–agent problems, (5) the purposes and effects of restrictive distribution arrangements, and (6) the implications of network economies for how industries are organized. If done well, these briefs could serve both purposes identified above and thereby allocate agency resources to their best uses and guide the litigation process when vertical mergers are challenged.

The now defunct *VMGs* leave only a small gap for two main reasons. As detailed in Section II, the *VMGs* contemplate only two states of the world: either (1) the parties merge and goods are transferred internally, or (2) the parties do not merge and continue to transact efficiently except for potential double marginalization. Firms in diverse settings choose, however, among an array of organizational alternatives available. The closest substitutes to vertical mergers are long-term contracts with restrictive features. By contrast, reliance on spot-market transactions is the most distant substitute to vertical mergers. Going forward, vertical merger enforcement will make little progress pretending that the relevant alternatives to vertical integration are low-cost exchanges. Indeed, truncating the continuum of alternatives to the two extreme options results in frameworks that are of little use to the Courts in deciding whether the proposed mergers should be deemed anticompetitive.

The other main reason why only a small gap is left from eliminating the *VMGs* is quite obvious. Any fair reading reveals that they did not provide actual guidance to economic actors. As explained in Section III, this is in part due to their reliance on static Industrial Organization (IO) models that do not yield bottom-line insights about the price effects of vertical mergers. In providing seven substantive examples of contexts where pricing incentives could change post-merger, the *VMGs* merely warn about potential anticompetitive exclusion and strategies to raise rivals' costs. In addition to relying on IO models that do not provide guidance, the *VMGs* ignored decades of other IO research on transactions costs, property rights, and agency problems. These lines of research (1) offer important insights about observable factors influencing the choice of organizational arrangements, and (2) identify potential efficiencies associated with vertical integration versus alternative governance and management structures. By overlooking such knowledge, the *VMGs* greatly limited their predictive power and overall value.

In Section IV, I offer remarks on what distinguishes the *HMGs* from the *VMGs*. A number of factors elevate the *HMGs*, including their conceptual foundations, empirical support, relationship to jurisprudence, and beliefs about the trade-off between potential harms and efficiencies that result from horizontal mergers in concentrated industries. The indicated weaknesses in the defunct *VMGs* are unlikely, however, to avert efforts to replace them.[2] Antitrust policy, like nature, abhors even a small vacuum.

2. Steven Salop has offered a complete revision in which he upgrades and clarifies the examples of potential harms and adds to the set of potential efficiencies. Steven C. Salop, *A Suggested Revision of the 2020 Vertical Merger Guidelines*, Georgetown University Law Center (2021).

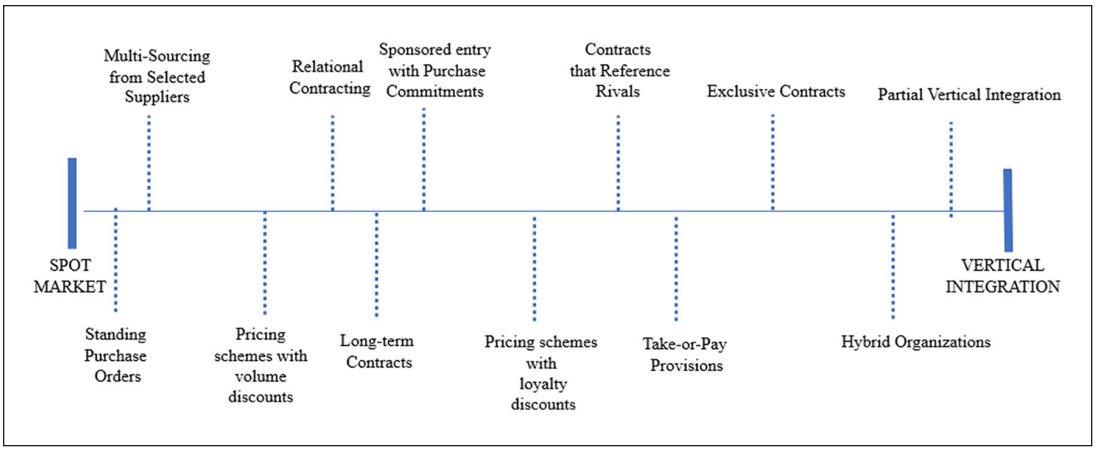

Figure 1. Continuum of organizational alternatives.

II. Narrow Scaffolding

The *VMGs* are based on the odd view that in one state of the world the merger takes place, and in the alternate state of the world, the parties transact without frictions, except for the potential problem of double marginalization. Substantial bodies of theoretical and empirical research have established, however, that firms facing ongoing organizational decisions choose among a dense array of options. Figure 1 presents these as a continuum between spot-market transactions on the extreme left and full integration, via either merger or internal investment, on the extreme right.

Nobel Laureate Oliver Williamson supplies the logic for how firms choose among organizational alternatives.[3] The costs of governing transactions rise for all alternatives when (1) transactions are complex, (2) the parties face consequential economic uncertainties, and (3) specific investments are required to facilitate transactions.[4] But they tend to rise differentially among the available options. The costs of adjustments to changing circumstances and negating opportunistic behavior are lower in the context of long-term contractual relationships and vertically integrated firms.[5] Hence, such factors lead economic actors to move from left to right along the continuum, that is, away from discrete transactions not governed by contracts and toward long-term arrangements and vertical integration.

While the ordering of specific arrangements in Figure 1 is not intended to be strict,[6] the likely best substitutes for any given arrangement are most likely those that are proximate on the continuum. Long-term contracts, partial vertical integration, and full vertical integration are the most relevant alternatives when parties would benefit from making specific investments and reducing opportunistic behavior.[7] By

3. Oliver E. Williamson, The Economic Institutions of Capitalism (1985).
4. Specific investments are common in settings involving technological change, customization of products, and the development of new products.
5. Consider, for example, that parties in a vertical relationship would increase their total gains from trade by making specific investments. In market contexts with high levels of uncertainty and the need to adapt to changing market conditions, it may be difficult for the parties to design a contract that specifies how the parties should adjust to various contingencies. While either the upstream or downstream firm also might consider internal investments to enter the other market, best option may be a vertical merger.
6. Scott E. Masten posits that the choices distill to three basic options: discrete transactions, transactions governed by contracts, and vertical integration. Within these categories, firms choose among a various features and designs of varying type, scope, and duration. Scott E. Masten, Case Studies in Contracting and Organization 9–11 (1996).
7. Williamson explains that after investments are made in support of transactions, the resulting quasi-rents become the object of opportunistic behaviors, that is, deviations from joint-maximizing behaviors, whose purpose is to redistribute gains from trade." Williamson, *supra* note 3 at 7.

contrast, a main advantage of discrete transactions, whether they take place in spot markets or are facilitated by standing orders, is that the buyer and seller each has high-powered incentives,[8] can unilaterally adjust to changing market conditions by changing the volumes purchase, and are not restricted from finding alternative parties with whom to transact. Thus, the left side of the continuum includes alternatives that preserve high-powered incentives.

In addition to ignoring the insights from the transactions cost literature developed by Ronald Coase and Oliver Williamson,[9] the *VMGs* also ignore several literatures advanced by other Nobel-prize-winning economists concerning property rights and agency problems. The property-rights literature emphasizes that the assignment of residual rights influences the effectiveness of internal governance.[10] The agency literature provides insights on the problems related to asymmetric information and how changes in organizational design can increase the flow of relevant information for managers.[11] A common theme of these bodies of knowledge is that the organizational scope of firms is influenced greatly by governance issues rather than by neo-classical production functions. The common approach in these lines of research is to identify what problems need to be overcome when organizing economic activity and then consider the least-cost means of doing so in various contexts.

A major advantage associated with this broader IO literature is that their insights are subject to empirical verification. One can deduce when transactions are more complex by assessing the dimensionality of the goods and services. One can identify when substantial and relationship-specific investments are made to facilitate transactions.[12] One can also assess whether information differentials exist, the extent of market uncertainties, and the costs of adaptations to different market conditions. Other real-world factors that raise governance issues are customization of products, lock-in effects, and timing differences between supply decisions and actual delivery. Again, it is possible to assess empirically whether non-productive bargaining results from these factors and identify whether the parties have adopted particular solutions to align incentives and limit ex post haggling.[13]

In light of this discussion, it is useful to consider whether the *VMGs* would have been helpful in the context of the FTC's December 2021 challenge of Nvidia Corp.'s $40B proposed acquisition of Arm, Ltd.[14] Nvidia is a leading supplier of graphics processing units (GPUs), which are complements to the central processing units (CPUs) in mobile devices, personal computers, driver-assistance systems, and computers in data centers. Arm designs CPUs and licenses its technologies to some three hundred customers, including Nvidia. Along with revenues from upfront licensing fees, Arm typically charges royalties based on the prices of the chips sold by their customers. The FTC has stated that "the merger will create a combined firm that has both the ability and incentive to use its control of this technology to diminish competition by undermining Nvidia's rivals."[15]

Except for the general warning that vertical mergers may cause anticompetitive harm, it is difficult to identify how the *VMGs* could be of any value to a Court reviewing the proposed Nvidia–Arm transaction.

8. Each party, as a residual claimant, has high-powered incentives to illicit effort and monitor performance.
9. See Ronald A. Coase, *The Nature of the Firm*, 4 Economica 386 (1937), Williamson, *supra* note 3, and Oliver E. Williamson, *Transaction Cost Economics: The Natural Progression*, Nobel Prize Lecture (2009).
10. An important contribution to this literature is Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. Pol. Econ. 691 (2007).
11. See Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior Agency Costs and Ownership Structure*, 3 J. Fin. Econ. 305 (1976).
12. Investments may be specific for various reasons, including their location and the customized nature of the physical assets. Human capital investments are specific when they are useful in limited contexts.
13. Opportunism is revealed to be a significant challenge when suppliers of complex inputs and their customers had entered into contracts that specified how quasi-rents are allocated ex post, by, for example, requiring the buyer to purchase most or all inputs from designated suppliers at prices that exceed marginal costs.
14. Federal Trade Commission, *In the Matter of Nvidia Corporation, Softbank Group Corporation, and Arm, Ltd, Administrative Complaint* (Public Version), Docket No. 9404, December 2, 2021.
15. FTC *Administrative Complaint, supra* note 14 at 3.

	No Merger	Merger
Assumed Means of Exchange	Frictionless Market Transactions	Frictionless Transfers within Integrated Firm
Efficiencies Considered	Possible Double Marginalization	Potential Anticompetitive Exclusion

Figure 2. Distillation of the *Vertical Merger Guidelines*.

The *VMGs* offer no insights into the efficiencies that the parties cite concerning the prospect of increased investments in specific assets. In addition, the alternative to the merger envisioned by the *VMGs*—discrete market transactions—is completely disconnected from the real world. Arm's actual relationships with customers are complex, involve multi-year design processes, and, for some customers, Arm deploys dedicated project teams on-site.

By carving out the middle of the continuum identified in Figure 1, the *VMGs* reduce the analysis of any challenged merger to an unhelpful and potentially misleading framework. As depicted in Figure 2, there are two states of the world and extremely limited lines of inquiry. In the no-merger state, the potential double marginalization is a general consideration but is not relevant in the Nvidia–Arm context where Arm charges two-part prices to its customers. There are no other states of the world and no other potential efficiencies. Hence, the analysis of the merger would focus on one potential downside, anticompetitive exclusion, and no efficiency gains.

This analysis of the proposed Nvidia–Arm merger suggests that the *VMGs*, beyond not being helpful, actually impede analysis of the relevant issues. In general, the most relevant alternatives to proposed mergers are long-term contracts, not arms-length transactions. In such contexts, the inquiries into claimed efficiencies will likely focus on increased investments, better adaptations to market changes, and reduced opportunism.

In this respect, the *VMGs* cannot be viewed as a valuable input into decision-making by agencies or the development of jurisprudence on vertical mergers. If, for example, restrictive contracts are in place, then the effects of a proposed merger should be evaluated based on the differences between those two alternatives, not based on the difference between vertical integration via merger and hypothetical market transactions. At the enforcement stage, this indicates a need to assess whether the contracts in place are procompetitive, that is, whether they foster specific investments and encourage adaptations to changes in market conditions. The existing contracts might be viewed as overly restrictive or may be judged to be insufficient to deal with underlying governance problems. Whatever the assessment, the proposed merger represents a change from the existing state to vertical integration. At the litigation stage, the same principles should apply. Decisions to block vertical mergers should account for the relevant alternatives.

III. The Lack of Guidance Provided by the *VMGs*

The *VMGs* were intended to "assist the business community and antitrust practitioners by increasing the transparency of the analytical process underlying the Agencies' enforcement decisions."[16] While the paucity of challenges to vertical mergers in recent decades prevented economic actors from developing an understanding of enforcement decisions, any fair reading of the *VMGs* demonstrates that they could not have possibly succeeded in providing such guidance and, therefore, that the gap left by their removal is vanishingly small.

The *VMGs* provide seven stylized examples of settings in which a vertical merger might cause anticompetitive harms by changing price incentives. In the no-merger state, upstream and downstream

16. *VMGs* at 1.

firms operate; none is vertically integrated, either partially or fully; and firms at each level sell the same products and are typically equally productive. The examples, some of which embody odd assumptions,[17] are silent on issues related to technological change as well as on basic questions such as whether downstream buyers favor having multiple suppliers, the existence of long-term contractual relationships, and time intervals between developing supply and downstream purchases. Thus, in contrast to the vast space of real-world decisions, *VMGs* concern contexts that are devoid of investment decisions, opportunistic behavior, problems of designing contracts to deal with market uncertainties, technological change, and potential gains from transferring assets to firms better able to develop their value.[18]

The primary theme of the *VMGs* is that by changing prices and outputs, the integrated firm might foreclose rivals or raise their costs: "[T]he concern is that the merged firm could profitably use its supply of an input (the related product) to weaken the competitive constraint it faces from rivals in the downstream market (the relevant market)."[19] The secondary theme is that downstream prices could fall if the mergers resolve double marginalization, which is discussed so frequently that one might conclude that this relatively simple pricing problem is the biggest impediment to a well-functioning modern economy.

The commentary accompanying the seven examples indicates that each is a starting point from which further analysis, including assessments of countervailing effects, might proceed.[20] The DOJ and FTC suggest that they may consider evidence from *merger simulations* to evaluate potential harms, but do not provide any information about the means of conducting such simulations.[21] Even if attempted, Michael Sallinger makes clear that simulating the price effects from vertical mergers will depend on several factors that are difficult to measure.[22]

The *VMGs* did not offer guidance about the industry conditions in which the proposed vertical mergers would likely raise antitrust concerns. The *VMGs* refer to the methodologies in the *HMGs* for

17. Example 2 considers a context in which suppliers of oranges make take-it-or-leave-it offers to downstream buyers and then posits that a vertical merger between a supplier and makers of orange juice could foreclose or raise rivals' costs of making orange juice. Example 3 considers a context where contracts take the form of constant unit wholesale prices and then posits that a vertical merger between a retailer and a supplier of a product may harm competition at the retail level. One might question whether the underlying logic applies to contexts involving more common bidding and negotiation processes and to contracts with non-linear prices. The answer is that such assumptions in the *VMGs* and in the IO models on which the *VMGs* were based do matter, and, as a result, one cannot reliably generalize from the examples to contexts where the assumptions do not hold or where other factors are relevant.
18. Henry G. Manne developed the insight that mergers may allocate assets to parties who can better manage them. Henry G. Manne, *Mergers and the Market for Corporate Control*, 73, J. Pol. Econ 110 (1965).
19. *VMGs* at 4.
20. Regarding Example 6 concerning a merger of manufacturers of batteries and scooters, the *VMGs* at 9 state, "The Agencies may investigate whether the merger firm would have the ability and incentive to disadvantage rival manufacturers of batteries. For example, the merged firm might do so by increasing the price of its motors (the related product) to its customers (e.g., electric scooter manufacturers) that do not also buy the merged firm's batteries. The merger firm may also have an incentive to offer lower prices for batteries to its customers that do buy both components from it. If the Agencies conclude that both countervailing price effects are likely to be present post-merger, the Agencies will conduct a balancing of the effects to determine the net effect on the prices customers will likely pay" [emphasis added]. Regarding Example 3 concerning a merger of a retailer and a product supplier, the *VMGs* at 7 state, "Rivals that pay higher wholesale prices for Product A would likely set higher retail prices. In contrast, the merged firm will likely lower its costs for sourcing Product A because it will not pay a wholesale price to a third party that includes a markup over cost, providing the merged firm with an incentive to lower its retail price for Product A. It is a factual question whether competition in the retail market would be substantially lessened, such that consumers in the retail market would be substantially lessened, such that consumers in the retail market would pay higher prices, on average, after the merger" [emphasis added].
21. *VMGs* at 6.
22. Sallinger states that "even if measurement tools were available, a policy in which the legality of a vertical merger turns on the relative size of cross-price effects or non-linearities of demand is not sufficiently transparent to businesses or to courts" [footnote omitted]. Michael A. Salinger, *The New Vertical Merger Guidelines: Muddying the Waters*, 59 Rev. Ind. Org. 161, 168 (2021).

defining markets and calculating shares, but they did not include the kind of guidance found in the *HMGs* based on threshold concentration levels and changes in concentration. The *HMGs*, for example, state, "Mergers resulting in highly concentrated markets that involve an increase in the HHI of between 100 and points and 200 points potentially raise significant competitive concerns and often warrant scrutiny."[23] In contrast, the *VMGs* state that they "do not rely on the thresholds in Section 5.3 [of the *HMGs*] as screens for or indicators of competitive effects from vertical theories of harm."[24] The lack of thresholds and an implied gradient of likely harms mean that the *VMGs* do not delineate either circumstances in which vertical mergers would likely cause anticompetitive or circumstances in which mergers would be considered safe from challenge by federal authorities.

The lack of guidance provided by *VMGs* is unsurprising given the nature of the IO models on which they are based. As IO research began to shift toward theoretical explorations of the interactions among firms, Sam Peltzman observed "the seeming inability of the recent theory to lead to any powerful generalization" and "an almost interminable series of special cases."[25] The lack of general insights should be distinguished, however, from a lack of conceptual soundness. Michael Whinston in 1990 conducted an important and influential inquiry establishing that control of a complementary input could allow a monopolist to leverage its monopoly power by foreclosing competitors in the tied good market.[26] He found the strategy to be available and profitable under circumstances that depend on several factors, including as market structure, the extent of economies of scale, whether consumers have heterogeneous preferences, whether the products are used in fixed proportions, and the ability of the monopolist to commit to the strategy.[27] When exclusion is possible, Whinston concludes that "the welfare effects both for consumers and for aggregate efficiency are in general ambiguous."[28] Thus, the modeling does not offer clear guidance about whether the strategy is available or whether it causes anticompetitive harm.

An assessment of the Raising Rivals' Costs (RCC) literature yields similar conclusions concerning the lack of guidance.[29] In 1983, Steve Salop and David Scheffman developed the core framework and established that a dominant firm with fringe competitors will engage in costly conduct, for example, over-buying of inputs, when their rivals' costs rise sufficiently to cause equilibrium prices to rise by more than its own average costs or when its residual demand increases by more than the increase in its costs.[30] RCC, which has served as the theoretical underpinning to several cases,[31] is viewed as a more plausible strategy than classic price predation because its success does not require that rivals exit and does not require reentry barriers.[32]

Again, the issue with RCC models is the lack of guidance, not conceptual soundness. Salop and Scheffman later explained that RCC strategies yield ambiguous results in terms of the effects of downstream prices, total welfare, and the profitability of fringe competitors.[33] The most important

23. *HMGs*, Section 5.3.
24. *VMGs* at 4.
25. Sam Peltzman, *The Handbook of Industrial Organization: A Review Article*, 99 J. Pol. Econ. 201, 206 (1991).
26. Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 Am. Econ. Rev. 837 (1990).
27. These factors exert varied influences. The exclusion of suppliers of the tied good can yield efficiencies in the presence of economies of scale. Regarding contexts with heterogeneous preferences, Whinston states, "[T]ying no longer necessarily results in strategic foreclosure and the lowering of the monopolist's tied good rival's profits (though it still does in many circumstances)." Whinston, *supra* note 26 at 840.
28. Whinston, *supra* note 26 at 839.
29. Jaunsz A. Ordover, Garth Saloner, et al., *Equilibrium Vertical Foreclosure*, 80 Am. Econ. Rev. 127 (March 1990); Steven C. Salop & David T. Scheffman, *Raising Rivals' Costs: Recent Advances in the Theory of Industrial Structure*, 73 AM. ECON. REV. 267 (1983).
30. This is turn depends on whether the marginal costs of fringe competitors increase by more than the average costs of the dominant firm engaging in the RCC strategy.
31. The most well-known example is *LePage's, Inc. v. 3M*, 324 F.3d 141 (3d Cir. 2003).
32. See Ordover, Saloner, et al., *supra* note 29, and Salop & Scheffman, *supra* note 29.
33. See Steven C. Salop & David T. Scheffman, *Cost-Raising Strategies*, 36 J. of Ind. Econ. 19 (1987).

determinant is the elasticity of dominant firm's residual demand, which itself depends on market shares and the elasticity of supply of rivals. Within the confines of the presumed trade-off between RCC effects and mitigating double marginalization, Gas Varma and Martino De Stefano in 2020 found that "[u]nder commonly used assumptions, a vertical merger may even create an incentive for the merged firm to lower its rivals' costs."[34] Reflecting on the theories introduced decades earlier, David Scheffman and Richard Higgins state that the biggest challenge with RCC is to "credibly distinguish between 'competition on the merits' and anticompetitive conduct," given the "richness and complexity of 'real world' competition."[35]

Sallinger's analysis of static pricing incentives in the contexts of vertical and horizontal mergers clarifies the problem.[36] In horizontal contexts, static pricing models indicate that firms with market power are incented to exercise it, creating a *presumption* that anticompetitive harms may result.[37] In vertical contexts, static pricing models do not establish a presumption that anticompetitive harms may result. Even when market positions are protected, a firm with market power at one level may or may not have available strategies to foreclose rivals.[38]

The context in which these static IO models were developed is relevant to understanding the lack of guidance offered by the *VMGs.* Their purpose was to counter two tenets of the Chicago School view that vertical mergers were almost always benign. One tenet was that a vertical merger changes the matching of upstream suppliers and downstream manufacturers but does not reduce the supply of inputs. Thus, while one may observe exclusion following a merger, the exclusion does not reflect the exercise of market power and is not, therefore, anticompetitive. The other tenet was that monopoly power could not be increased by controlling complementary inputs.

The post-Chicago models succeeded in establishing that, under some circumstances, each tenet was subject to qualification. Anticompetitive exclusion at either the input level or the customer level could occur, monopoly power could be leveraged, and rivals' costs could be increased. But these same IO models were not intended to develop comprehensive theory about vertical mergers. The practical effect of their limitations is that they do not establish a presumption of anticompetitive harms. In this light, the threshold mistake was to write guidelines based on IO theories that do not offer generalizable insights.[39]

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34. See Gopal Das Varma & Martino De Stefano, *Equilibrium Analysis of Vertical Mergers*, 65 Ant. Bull. 445 (2020).
35. See David T. Scheffman & Richard S. Higgins, *Vertical Mergers: Theory and Policy*, 12 Geo. Mason. L. Review 371, 373 (2004).
36. Salinger, *supra* note 22.
37. The presumption that horizontal mergers will lead to the exercise of market power should not be granted too much berth. We have no general theory of oligopoly, and Bertrand competition among small numbers of firms yields competitive outcomes. Moreover, oligopoly models are not useful in incorporating real-world factors such as differences in the capabilities of firms, technological change, and product differentiation.
38. The mix of empirical evidence on the effects of vertical integration matches the theoretical ambiguity. See Francine Lafontaine & Margaret E. Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. of Econ. Lit. 629 (2007) and Francine Lafontaine & Margaret E. Slade, *Presumptions in Vertical Mergers: The Role of Evidence*, 59 Rev. of Ind. Org. 255 (2021).
39. That mistake would be repeated by the most credible proposal for replacement. Salop (July 2021) offers a complete draft of revised *VMGs* in which he upgrades and clarifies the examples of potential harms and also identifies a broader range of potential efficiencies, citing potential benefits in coordinating activities and sharing information within an integrated firm compared to relying on contracts. Despite the clarifications and improvements, Salop's proposed guidelines continue the reliance on static IO theories and actually offer less guidance regarding market conditions in which anticompetitive exclusion could occur: "As illustrated in the examples, *significant competitive concerns can arise even when the market share of one or both merging parties is low, or one or both of the levels are unconcentrated*. A merger also may not raise significant competitive concerns even if both levels are concentrated, or one of the merging firms has substantial market power." Steven C. Salop, *A Suggested Revision of the 2020 Vertical Merger Guidelines*, Georgetown University Law Center (July 7, 2021) at 7 [emphasis added].

The scaffolding for the *VMGs* was further narrowed by overlooking other IO research on how firms routinely realize various efficiencies by optimally organizing their economic activities. This research began with Coase (1937), who asked why firms internalize some functions but not others. Empirical research has established that getting these make-versus-buy decisions right saves substantial resources.[40] Other lines of research focusing on governance issues have developed around differences in the abilities of firms to manage assets, including human capital, the design of incentive structures within firms, and mitigating information asymmetries. The common approach in these lines of research is to identify what problems need to be overcome when organizing economic activity and then consider the least-cost means of doing so in various contexts.

Consistent with earlier commentary, two fundamental problems and the associated potential efficiencies should be emphasized when evaluating vertical integration, by merger or internal investment. The first is whether non-integrated parties underinvest in specific assets and capabilities due to the potential problem of opportunistic behaviors. The second is whether non-integrated parties fail to efficiently adapt to changing market conditions. In some settings, the deviations from joint-maximizing behaviors, including shortfalls in investments that support exchange, are not great enough to give up the benefits from high-powered incentives associated with market-based transactions. But in other settings, complex transactions, the need for ongoing investments, and the importance of ongoing adaptations combine to favor vertical integration—either by merger or by internal investment. It is baffling that the *VMGs* omitted the potential efficiencies related to these problems and instead limited the meager discussion of potential efficiencies to the notions of streamlining production and eliminating contracting frictions.

IV. Concluding Remarks

On the assumption that abandonment of the *HMGs* would likely cause substantially greater concern among antitrust scholars and practitioners than the prospect of operating without *VMGs*, it is useful to inquire into differences between the two. Although they have received substantial criticism from prominent scholars,[41] the *HMGs* are organized around the potential exercise of market power, a concept about which there is substantial consensus.[42] Successful exercise by sellers leads to higher prices, less output, the transfer of consumer surplus to producers, and inefficiencies related to reduced gains from trade.[43] Another difference is that *HMGs* followed decades of jurisprudence, including the Supreme Court's 1963 *Philadelphia National Bank* decision that articulated the presumption that horizontal mergers in concentrated industries will lessen competition.[44] The *VMGs* lack a similar jurisprudence.[45]

40. For a study showing that the costs of organizational mistakes are substantial, see Scott E. Masten, James W. Meehan, Jr. et al., *The Costs of Organization*, 7 J. of Law, Econ. & Org. 7 (1991) 1.
41. A major theme in the criticism of the *HMGs* is that too much emphasis is placed on market definition and too little emphasis is placed on direct evidence of market power. Louis Kaplow takes direct aim at the structural presumption that a merger that increases concentration in an already concentrated market will cause anticompetitive effects and argues that a complete reset is required. Louis Kaplow, *Replacing the Structural Presumption*, Working Paper (December 14, 2021).
42. See Louis Kaplow & Carl Shapiro, *Antitrust*, Handbook of Law & Economics, vol. 2 (2007). This highly regarded chapter on antitrust is, from beginning to end, an analysis of market power.
43. The exercise may involve reductions in quality as well. The exercise of market power may also be on the buyer side. It is also understood that the exercise of market power may be unlikely due, for example, to the lack of barriers to entry, the availability of good substitutes, and the ability of large buyers to counter price increases. It is further understood that market conditions and product characteristics influence the costs of organizing and enforcing cartels.
44. *United States v. Philadelphia National Bank*, 374 U.S. 321 (1963).
45. The Supreme Court's list of decided vertical merger cases is short: *United States v. E.I. du Pont de Nemours &Co.*, 353 U.S. 586 (1957); *Brown Shoe Co. v. United States*, 370 U.S. 294, (1962); and *Ford Motor Co. v. United States*, 405 U.S. 562 (1972).

The HMGs have also been strengthened by several complementary frameworks. These include, of course, market definition based on the Hypothetical Monopolist Test, the calculation of market shares, the Herfindahl–Hirschman Index (HHI) index, and, more recently, the Diversion Ration and the Gross Upward Pressure Pricing Index. When cases are litigated, the parties often focus on differences in (1) how to define markets and calculate the change in HHI, and (2) the meaning of non-transitory and profitable exercises of market power. These frameworks have serious limitations in some contexts and should give way to in-depth analysis of how firms compete, but rarely are these frameworks ignored. By contrast, the toolbox for vertical mergers is smaller and less useful. Not only is market definition more challenging, but translating basic tools like HHI into the vertical context is problematic.[46] Herbert Hovenkamp recently acknowledged that most judges would not find game-theoretic assessments of how vertical mergers change pricing incentives helpful, especially in the context of dueling experts.[47]

Finally, the *HMGs* focus on efficiencies that can be verified and are merger-specific, meaning that they cannot be realized in the near term through other means. They also offer guidance about their quantification of each claimed efficiency. The HMGs thereby allow for carefully delineated tradeoffs of potential harms and efficiencies. By contrast, except for double marginalization, the VMGs are silent on the range on the efficiencies from vertical mergers and instead sound general warnings about potential anticompetitive exclusion.[48]

Will these indicated deficiencies with vertical guidelines inhibit efforts to replace the *VMGs*? Probably not. But efforts to fill in the gap will lack a solid foundation in economics, cannot establish a presumption of harm in any given context, and instead will distill to a series of alerts that anticompetitive harms might follow from vertical mergers. Replacement VMGs will fail, therefore, to do what guidelines are supposed to do, that is, identify mergers that are less likely to raise concerns and aid in the litigation process for challenged mergers. In this likely state of antitrust policy, the Courts will confront the challenge of developing meaningful doctrine.

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46. Joshua S. Gans explains that HHIs can be calculated in three different ways in the vertical merger context. Joshua S. Gans, *Concentration-Based Merger Tests and Vertical Market Structure*, 50 J. Law & Econ. 661 (2007).
47. See Herbert Hovenkamp, *Competitive Harm from Vertical Mergers*, 59 Rev. of Ind. Org. 139, 145 (2021) [footnote omitted]. Hovencamp is nevertheless optimistic that Courts will become comfortable with these concepts, which he views as analogous to tools for analyzing horizontal mergers.
48. See Dennis W. Carlton & Mark A. Israel, *Effects of the 2010 Horizontal Merger Guidelines on Merger Review: Based on Ten Years of Practical Experience*, 58 Rev. of Ind. Org. 213 (2021).