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Abstract: This paper is on the new Merger Guidelines. It makes several arguments. First, that the Guidelines should be understood as existing in a political equilibrium. Second, that the new structural presumption of the Merger Guidelines (*HHI* = 1,800) is too strict, and that an economically reasonable revision in the structural presumption would have increased rather than decreased the threshold. Whereas the new Guidelines lowers the threshold to *HHI* 1,800 from *HHI* 2,500, an economically reasonable revision would have increased the threshold to *HHI* 3,200. I justify this argument using a bare-bones model of Cournot competition. Third, it seems unlikely, as an empirical matter, that merger enforcement under the existing Guidelines is socially desirable. Fourth, that federal merger enforcement raises serious constitutional issues, originally discussed in 1904, and that it may be time now, in view of the new Guidelines, to return to these foundational constitutional questions.

Keywords: antitrust, merger law, merger guidelines, structural presumption, Clayton Act constitutionality

JEL Classifications: K21, K23, L22

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I. Introduction

Section 7 of the Clayton Act says the following:

> No person engaged in commerce or in any activity affecting commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no person subject to the jurisdiction of the Federal Trade Commission shall acquire the whole or any part of the assets of another person engaged also in commerce or in any activity affecting commerce, where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.[1]

In 1976, Congress enacted the Hart-Scott-Rodino antitrust notification statute,[2] which requires entities to notify the antitrust enforcement agencies – the Department of Justice and the Federal Trade Commission – of their plans to merge, provided the total value of the merger exceeds a certain monetary threshold, for the agencies to determine in advance whether they wish to challenge the merger. In many instances, a decision by an enforcement agency to challenge puts an end to the merger, because there is a high likelihood that the challenge will take a long time, and impose substantial expenses on the merging entities, and by the time the process is over the business reasons for the merger will have evaporated.

In connection with these statutes, the enforcement agencies have published guidelines to signal their enforcement priorities with respect to mergers. The DOJ and FTC Merger Guidelines provide the enforcement agencies' "playbook" for merger enforcement. The Guidelines attempt to provide notice to potentially merging entities of the reasons the agencies may choose to challenge or attempt to block a merger. The Merger Guidelines were first issued in 1968, and then revised in 1982.[3] The 1982 Guidelines introduced the Herfindahl-Hirschman Index (*HHI*) of market concentration as a tool for assessing the need for enforcement.[4] The *HHI* thresholds that triggered enforcement in the 1982 Guidelines remained intact, through successive revisions of the Guidelines, until the 2010 Merger Guidelines, which increased the *HHI* thresholds necessary to justify enforcement (from *HHI* 1,800 to *HHI* 2,500).

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[1] Clayton Antitrust Act of 1914. Section 7 is codified at 15 U.S.C. § 18.
[2] Hart-Scott-Rodino Antitrust Improvements Act of 1976. Codified at 15 U.S.C. § 18a.
[3] Oliver E. Williamson The Merger Guidelines of the U.S. Department of Justice--In Perspective, available at https://www.justice.gov/archives/atr/merger-guidelines-us-department-justice-perspective.
[4] https://www.justice.gov/archives/atr/1982-merger-guidelines.

On December 18, 2023, the DOJ and FTC published the latest revision of the Merger Guidelines. The new revision lowers the market concentration thresholds that trigger merger enforcement (structural presumption) back to the levels of the original 1982 Guidelines, thus widening the enforcement net and effectively authorizing the agencies to block a larger set of proposed mergers. In addition to this change in the structural presumption, the new Merger Guidelines incorporate several provisions designed to maximize agency discretion in enforcement and weaken potential defenses firms might assert.

This contribution is on the new Merger Guidelines. It makes several arguments. First, that the Guidelines generally should be understood as existing in a political equilibrium. It is unlikely to be an equilibrium today to have no guidelines at all, but the agencies' self-interested incentives will be to provide illusory notice ("Potemkin Notice"). The second argument is that the structural presumption of the new Merger Guidelines, which is the same as the 1982 Guidelines, is too strict, and that an economically reasonable revision in the structural presumption would have increased rather than decreased the threshold. Whereas the new Guidelines lowers the threshold to *HHI* 1,800 from *HHI* 2,500, an economically reasonable revision would have increased the threshold to *HHI* 3,200. I reach this conclusion through two routes: by considering a bare-bones Cournot competition model to examine the likely price effects of a merger, and by examining the structural market presumptions consistent with that analysis. Third, it seems unlikely that merger enforcement under the structural triggers of either the new Guidelines or the 2010 Guidelines is socially desirable. This is because the social benefit from merger enforcement under the Guidelines is unlikely to substantially exceed the costs generated by merger enforcement. The fourth argument is that federal merger enforcement raises serious constitutional issues, originally mooted in the *Northern Securities* dissents in 1904,[5] and that it may be time now, in view of the new Guidelines, to return to these foundational constitutional questions. The new Guidelines come close to overturning an established history of fair play by enforcement agencies, within a constitutionally infirm statutory framework. Such a deviation should be viewed by courts as an invitation to reexamine the constitutional basis for the enforcement agencies' actions.

II. Some Major Provisions of the New Merger Guidelines

Probably the most important part of the 2023 Merger Guidelines is the new set of structural presumptions:

[5] I refer to the dissents of Justices Oliver Wendell Holmes and Edward Douglass White. See Northern Securities Co. v. United States, 193 U.S. 197 (1904).

> Markets with an HHI (post-merger) greater than 1,800 are highly concentrated, and a change of more than 100 points is a significant increase. A merger that creates or further consolidates a highly concentrated market that involves an increase in the HHI of more than 100 points is presumed to substantially lessen competition or tend to create a monopoly. The Agencies also may examine the market share of the merged firm: a merger that creates a firm with a share over thirty percent is also presumed to substantially lessen competition or tend to create a monopoly if it also involves an increase in HHI of more than 100 points.[6]

This new structural presumption reverses the last change in the structural presumption, from 2010, that set the *HHI* level of 2,500 as the numerical trigger for a highly concentrated market. The new presumption is a reversion to the 1982 structural trigger based on an *HHI* level of 1,800. In addition to this change in the structural presumption for enforcement, the new Guidelines contain several other provisions giving the agencies greater discretion over the enforcement decision.

To get a sense of what the *HHI* numerical thresholds mean in practice, suppose you have a market with seven firms, each with an equal market share.[7] Thus, each of the seven firms has a 14.2 percent market share. Such a market would appear to many observers to be a reasonably competitive market – that is, "workably competitive" in the sense of Clark (1940). Under the foregoing numerical threshold of *HHI* 1,800, the merger of any two firms in this market would trigger enforcement. To follow through on this thought experiment, the merger between any two firms in a market consisting of firms with equal shares would trigger an enforcement action under the *HHI* 1,800 structural presumption as long as the number of firms in the market is less than or equal to seven. Thus, another way of thinking about the new numerical threshold is that it is an *eight firm rule*: *a market of equal-size firms should have at least eight firms for an unchallenged merger to take place*. Now, comparing this to the 2010 Guidelines numerical threshold, we can see (using just a few numerical examples, which I discuss in the next paragraph) that the 2010 Guidelines imposed a *six firm rule*: *a market of equal-size firms should have at least six firms for an unchallenged merger to take place*. There is perhaps not that much of a difference, at first glance, between a "six firm rule" and an "eight firm rule". However, the eight firm rule definitely gives the agency more discretion over potential mergers to block.

To provide a more technical and at the same time more general version of this perspective on the structural presumption, note that the post-merger *HHI* in the case of two merging firms is simply

[6] U.S. Dep't of Justice & Fed. Trade Comm'n, Merger Guidelines (2023), available at: https://www.justice.gov/atr/2023-merger-guidelines.
[7] I am setting to the side the question whether the market is measured accurately, or indeed whether it is possible to accurately define a market for purposes of calculating HHIs. See Kaplow (2021).

$$HHI = (s_1 + s_2)^2 + s_3^2 + \cdots + s_N^2$$

If the firms all have the same market share, this is just

$$HHI = (N+2)s^2$$

Let the structural presumption threshold be HHI_T. The question then is whether

$$(N+2)s^2 \geq HHI_T$$

or, equivalently, whether

$$s \geq \sqrt{\frac{HHI_T}{N+2}}$$

Of course, the actual market share of each firm in this case is simply 100/*N*. Thus, the question of the number of firms needed to evade the structural presumption in a market of equal-size firms, and given any *HHI* threshold, comes down to the inequality

$$\frac{100}{N} \geq \sqrt{\frac{HHI_T}{N+2}}.$$

From this approach, it is not difficult to generate the “eight firm rule” for HHI_T = 1,800, and the “six firm rule” for HHI_T = 2,500. One might object to this approach because it assumes all firms have an equal market share, but it would not be difficult to modify this method by imposing a distribution, such as Gibrat’s Law, on the firm sizes, as in Adelman (1969). I will return to this perspective on the structural presumption later.

In addition to the change in the structural presumption, the 2023 Guidelines also include provisions that give the agency additional discretion over enforcement actions. For example, one provision warns that the guidance is not exhaustive of all the ways mergers can threaten competition.[8] Another discretion-maximizing provision states that the agencies will consider a "trend toward concentration" carefully when applying its other provisions in the Guidelines.

As for the efficiencies defense, the 2023 Guidelines attempt to cabin the discretion of courts by reminding them of early Supreme Court law, from 1963, excluding "economies" as a "defense to illegality" in merger litigation. The new Guidelines also attempt to restrict the sorts of efficiencies that can be recognized by agencies and courts.

Another major change in the agencies' public notifications of enforcement plans should be noted here. The agencies have proposed to increase the reporting burden on firms planning to merge.[9] The enforcement agencies have estimated that the new reporting burden will increase the cost of compliance with the merger notification provision by an average of a factor of four.[10]

Thus, the general picture provided by these changes is that the agencies have given themselves more discretion over the set of proposed mergers that they may choose to challenge, and at the same time have substantially increased the cost to merging entities of satisfying the reporting requirements. In short, the agencies have given themselves a freer hand over enforcement and created additional and costly red tape for firms to cut through.

III. Notice and the Control of Agency Discretion

The purpose of the Merger Guidelines is to give the parties who may be subject to enforcement actions greater notice of the enforcement intentions of the agencies and at the same time to reduce the discretion of the agencies.[11] Providing notice is the equivalent of reducing discretion.

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[8] Merger Guidelines (2023), at 4 ("Similarly, the factors contemplated in these Merger Guidelines neither dictate nor exhaust the range of theories or evidence that the Agencies may introduce in merger litigation."). Also, the end of Guideline 2 of the 2023 Guidelines, describing ways mergers can violate the law by eliminating competition, notes that the analyses covered within the Guideline are merely common scenarios and that "a wide range of evidence can show that a merger may lessen competition." Merger Guidelines (2023), at 29.

[9] Justin Hurwitz, Premerger Notification Proposal Faces a Rocky Path, The Regulatory Review (Aug 28, 2023), https://www.theregreview.org/2023/08/28/hurwitz-premerger-notification-proposal-faces-a-rocky-path/.

[10] Id.

[11] Oliver Williamson, *supra* note 3 ("One of the consequences of issuing Guidelines is that firms considering merger would face less antitrust enforcement uncertainty. Inasmuch, however, as such uncertainty served mainly to deter mergers, many of the career staff viewed uncertainty as an "advantage." Of greater concern is that the issuance of Guidelines would serve to introduce a floor, below which the burden of bringing a case would have to be borne by the Division. The previous practice of progressively ratcheting down admissible market shares would be brought to

If the agencies provided no notice, their discretion over enforcement decisions would be at its greatest. Notice narrows discretion.

By changing the Guidelines to give themselves more discretion, the agencies have reduced the quality and quantity of notice to potential targets of merger enforcement. They agencies have signaled that they will widen the enforcement net to capture a larger number of proposed mergers. Of course, since the agency has a fixed budget, this change also suggests that the likelihood of enforcement against any particular merger must fall unless the agency obtains a larger budget or squeezes more work out of agency staff under the current budget. One of the reasons for the increased burden on firms to report is to facilitate this widening of the enforcement net. If firms can shoulder a larger share of the burden of enforcement, then the agency may find it feasible, within a fixed budget, to actually enforce its merger preferences against a larger pool of merging entities.

A. Why Provide Notice?

The obvious question this progression generates is why provide notice at all? Why not simply provide no notice? By "no notice" I mean a decision to provide absolutely nothing to the courts and potential enforcement targets to explain the antitrust agencies' enforcement priorities or preferences.

Although no notice maximizes agency discretion, the agencies may suffer losses by refusing to provide any notice at all. What losses?

First, if the agencies provide no notice, large firms with powerful lobbying arms will press Congress to alter the statute to constrain the agencies and to reduce their budgets. Certainly the agencies are aware that if they were to simply dispense with any notice, the wealthiest of potential targets of merger enforcement would lobby furiously to get their discretion curtailed. So, it is fair to say that "no notice" of merger enforcement intentions is not a political equilibrium in antitrust law. Of course, this claim may not generalize to all enforcement agencies; some other federal agencies, such as the National Labor Relations Board and the Securities and Exchange Commission, do not provide formal notice of their enforcement intentions, and yet that has not led to noticeable efforts to defund those agencies. The difference in the case of antitrust is that the underlying statutes are unusually vague, and at the same time

a halt. That the 1968 Guidelines were stringent can thus be thought of as a compromise. To propose more permissive market shares would, in effect, concede error--by the antitrust enforcement agencies and the courts--in earlier cases.")

applicable to almost the entire economy. Other federal agencies, such as the NLRB, operate under more detailed statutes and over a narrower segment of the economy than do the antitrust enforcement agencies. Thus, the combination of an agency history of providing notice (of varying degrees of specificity), applicability of enforcement to virtually the entire economy, and statutory vagueness tends toward the conclusion that a "no notice regime" in antitrust is unlikely to be politically sustainable.

The other loss to the agency if it provided no notice would be realized through litigation. One of the arguments that the agencies can offer against claims that merger enforcement works an unconstitutional deprivation of property (without adequate procedure) is that they now provide "notice" to potential targets of merger enforcement.[12] Were the agencies to abandon notice, they would surely face litigation asserting that the merger enforcement process is unconstitutionally vague.

Of course, if the enforcement agencies provided no notice at all, they might point to the merger statute, Clayton Act Section 7, as fully justifying the high level of discretion they enjoy over enforcement decisions. After all, Clayton Act Section 7 prohibits mergers that may "substantially lessen competition" or "tend to create a monopoly". The enforcement agencies could attempt to argue that these provisos limit the agencies' discretion and provide adequate notice to potential targets of merger enforcement. However, the term "substantially lessen competition" is one of art that can be read in many different and plausible ways. For example, if two firms with small market shares merge, surely such a merger substantially lessens competition between them. Moreover, if their competition happened to be important in any identifiable specific market, then surely an antitrust enforcement agency could argue credibly that the merger substantially lessens competition within that specific market. Thus, it seems far from clear that Clayton Act Section 7 itself provides significant restraints on the discretion of the enforcement agencies. The statute itself, one could argue, leaves the enforcement decision entirely to the discretion of the agencies. And given that the Clayton Act arguably fails to restrain the enforcement agencies, it may be within the agencies' interests to adopt additional interpretive garb that has the appearance of restraint.

Yet another loss suffered by the agencies if they were to provide no notice at all is the forfeiture of the gains they get through notice. The most important gain is the ability to influence the legal standards applied by courts to merger cases under Clayton Act Section 7. This statement may seem jarring at first, and in need of repetition. How could it be, one might ask, that the enforcement agency, a litigant in a federal court, can actually influence the legal standard that courts apply to the agency's enforcement actions? The question seems entirely fanciful at first, because it is equivalent to suggesting that a private lawyer might want to publicize his litigation

[12] The question of notice under the antitrust laws was first raised in Nash v. United States, 229 U.S. 373 (1913).

strategy in order to influence the judges. We would find such a claim about a private lawyer to be immediately absurd. However, the claim is not absurd when used in reference to the antitrust enforcement agencies. The agencies have attempted for many years to use the Merger Guidelines to influence the substantive legal standards that courts apply in merger cases. The efficiencies defense, for example, emerged initially in the Merger Guidelines, and gradually came to be recognized by courts as a defense in merger cases.[13] The agencies have realized their power to influence courts and have begun to assert their own interpretations of the Merger Guidelines as law binding courts. The most recent example is *Bertelsmann* (book publishers merger),[14] where the Department of Justice persuaded the district court judge that the efficiencies evidence proffered by the defendants had to be verified by a third party to be admissible in court. No such independent verification requirement existed in the law before *Bertelsmann*; the requirement was just a desideratum of the agencies. But such a requirement arguably exists in the law now after *Bertelsmann* – and the requirement is explicitly incorporated in the new Guidelines.[15]

It follows that if the agencies were to simply stop providing any notice at all on their enforcement preferences, they would also forfeit the gains they get from influencing the legal standard that governs their enforcement actions. The agencies are unlikely to choose the forfeiture course.

The upshot of this discussion is that "no notice" is unlikely to be observed in the merger enforcement equilibrium. The agencies will find it within their own interests to appear to provide notice to potential targets of enforcement actions.

B. Privately Optimal Notice from the Agency Perspective

Given that the agencies are unlikely themselves to desire a "no notice" regime, how much notice would be privately optimal to them? The obvious short-run privately optimal decision to the agency is minimal notice or a façade of notice – more colorfully, a Potemkin Village of Notice. I will refer to this as "Potemkin Notice". I will define Potemkin Notice as the minimal degree of notice just sufficient to exist as a political equilibrium in antitrust enforcement. It appears to be notice, but once you look behind the provisions that seem to provide notice and constrain the agencies' discretion, you will realize that there is actually very little notice and that the agencies are largely unconstrained.

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[13] See FTC v. Staples, Inc., 970 F. Supp. 1066, 1088-90 (D.D.C 1997).
[14] *United States v. Bertelsmann SE & Co. KGaA*, 646 F. Supp. 3d 1 (D.D.C. 2022).
[15] Guideline 3.3, Procompetitive Efficiencies, requires the merging parties to show verifiability.

The new Merger Guidelines publication does not initially seem, in all fairness, to fit my description of Potemkin Notice. However, it is close. Recall, the 1982 numerical *HHI* threshold reverted to in the new Guidelines is, in effect, an eight firm rule, in markets of equal-size firms. In other words, in markets of roughly equal firms, there must be at least eight competing firms to avoid an enforcement action under the new Guidelines – and this is the same structural presumption as in the old 1982 Guidelines. This should leave the agency with quite a lot of discretion. Moreover, the new Guidelines have, as noted earlier, included various “wriggle room” provisions (such as the provision on evidence of a trend toward concentration) that enable the agencies to credibly bring enforcement actions that fall well below the numerical threshold. Although it may not seem fair at first glance to label this Potemkin Notice, it is, on closer inspection, a fair description.

The new Guidelines represent a step back to a regime of greater enforcement uncertainty than has existed for quite a long time under the Merger Guidelines. Although the new Guidelines may seem at first to be merely a reversion to the original 1982 Guidelines, if focusing solely on the structural presumption, the guidelines overall provide even less “guidance” than the 1982 Guidelines and, concomitantly, give the agencies greater discretion over enforcement. One reason the new Guidelines provide greater discretion is because of the inclusion of the aforementioned “wriggle room” provisions that effectively say that the agency has unlimited discretion.

To be absolutely clear, then, the new Guidelines represent a Potemkin Notice regime in which the notice provided by the Guidelines is mostly illusory. The notice that is there, such as it is, exists to enable the agency to argue credibly to Congress and to the courts that it is providing notice and constraining itself.

C. Sustainability of Merger Guidelines in the Long Run

The next question that arises is whether this new Guidelines publication is likely to have any impact in the long run. We should consider both the new Guidelines and the new proposed reporting requirements.

First, let’s take up the new Guidelines. Are they likely to have a significant impact over a substantial period of time? There are several reasons to discount the long-term impact of the new Guidelines. First, when a different administration comes into office, it is likely to seek an immediate reversal back to the 2010 Guidelines, or perhaps a set of guidelines that is even more restrictive of the agencies' discretion than the 2010 Guidelines. This event is made especially plausible by the fact that the new Guidelines enjoy virtually no support among economists who have studied these issues and actually worked in the enforcement agencies. The new Guidelines have made allies of ideologically divergent economists, bringing those of different political persuasions together in opposition. It would not be difficult at all for a new administration to find economists interested in aiding a new revision of this most recent revision. Some of the economists most angered by the new revisions are those who thought they had brought about some important and economically rigorous reforms in the enforcement guidelines, only to find them carelessly tossed out by the new administration.

Second, the courts may have difficulty "accepting" the new Guidelines, especially after a body of case law has developed referring to or incorporating the 2010 Guidelines. Recall that one of the significant benefits that the agencies get out of the Guidelines is the power to influence courts in the adoption and interpretation of legal standards in merger cases. However, if courts recognize that the enforcement agency has altered the Guidelines for the sole purpose of enhancing agency enforcement discretion, then courts may respond by putting less weight or reliance on the new Guidelines. Alternatively, the courts may choose to continue to use the 2010 Guidelines on the theory that they at least reflect an effort to study the merger enforcement problem and to suggest economically reasonable enforcement rules. Indeed, I think it is probable that courts will choose to continue to consult the 2010 Guidelines, given the evidence of the motivations behind the hasty issuance of the new Guidelines.

The courts are much slower to move than the agencies. The agencies can change the Merger Guidelines overnight, but the courts cannot change the law so quickly. Once the courts adopt a set of interpretations of Clayton Act Section 7, the agencies are unlikely to be able to force the courts to change those interpretations quickly. Consider, for example, the efficiencies defense. The new Guidelines attempt to cabin the discretion of courts by imposing *on the merging parties* a requirement of *actual verification* (whereas the 2010 Guidelines said simply that the *agency* must be *able to verify* the claims) and by defining a restrictive set of *cognizable efficiencies*. The appellate courts may choose not to impose an independent thjrd-party verification requirement on the parties, or they may choose to consider a wider range of efficiencies than the agencies now assert are "cognizable". I suspect appellate courts, seeing through the motivations behind the agencies' new changes in the Guidelines, will be unlikely to adopt all of the agencies' new interpretations as binding law.

The most plausible outcome is that the new Guidelines will not be accepted by the courts and that a new administration will rework the Guidelines to bring them back closer to the state they were in the 2010 Guidelines. The most significant changes in enforcement policy are likely to be short-lived.

Of course, one cannot put too much weight on this difference I am asserting between the new Guidelines and the 2010 Guidelines. Again, recall that the different structural presumptions in the two versions of the Guidelines permit a simple description as a choice between a "six firm rule" and an "eight firm rule". It is not at all clear that this is a substantial difference in reality. Indeed, I conclude that it is probably not a substantial difference in reality in the next part of this paper.

In the short run, it is clear that the new rules, by enlarging the potential scope of the agencies' power to enforce, will have the most threatening effect on firms that are unlikely to be able to bear the expense of merger litigation against one of the enforcement agencies. For such firms, the move from a "six firm rule" back to the "eight firm rule" means that there are many more firms subject to the threat of merger enforcement, and will therefore choose to forgo the merger rather than bear the expense of investigation and litigation.

This short run distributional effect is only amplified by the proposed increase in the reporting burden on firms desiring to merge. The proposed new reporting burden will turn the net gain due to merging from positive to negative for the smaller firms within the scope of merger enforcement. This effect will deter some economically efficient and socially desirable mergers.

The deterrent effect arising from the sheer costliness of compliance and litigation resulting from the new Guidelines cannot be affected by the courts. This effect can only be modified by a new administration deciding to revert to the 2010 Guidelines and the preexisting reporting burdens. While it seems plausible that a new administration will choose to jettison the new Guidelines and return to the 2010 Guidelines, the new reporting burdens may be harder to reverse. Both the DOJ and the FTC may find it preferable to maintain the proposed reporting burdens (assuming that the proposals are adopted). In addition, the firms that are most affected by the new reporting burdens will be comparatively small businesses, and such businesses are unlikely to have a powerful lobbying arm in the federal government. Thus, while the substantive provisions of the new Guidelines are unlikely to survive the scrutiny of future administrations, the new reporting requirements probably have a greater chance of survival, and to thereby impose a distributional impact across firms. The distributional impact likely will reduce the incentives to merge among smaller firms and startups. Since acquisition through merger has historically been one of the substantial routes through which independent entrepreneurs receive a return on innovation, the new reporting burdens may expose such entrepreneurs to unremunerative or predatory bids for their firms.

IV. Toward a Reasonable Structural Presumption for Merger Enforcement

I return to the discussion of the structural presumption, which is the most obvious change in the new Guidelines, though perhaps less important than the statements laced into the Guidelines attempting to enhance agency discretion – for example, the “wriggle room” clauses mentioned earlier. How many firms must there be in a market, pre-merger, before we consider it sufficiently competitive that we need not worry about the impact of a merger? In the Bertrand competition model, the number would be three. Because once two of the firms merge, the remaining two will engage in Bertrand competition, and price will equal marginal cost.

Of course, it is highly unlikely that the enforcement agencies will adopt the Bertrand model as the benchmark for evaluating mergers. Such a decision could eviscerate merger enforcement. A more plausible approach, from the perspective of the agencies, is to start with a Cournot competition framework, that is, competition through output choices. The real world may be a mixture of Cournot and Bertrand, implying that the Bertrand model probably understates the competitive effects of a merger and the Cournot model probably overstates the competitive impact of a merger (Singh and Vives, 1984; Willig, 1991).

A. Bare-Bones Cournot Model and Merger Effects

Consider the Cournot model, with inverse market demand given by $p = a - bQ$, where p is price and Q is total output, the sum of individual firm outputs $Q = q_1 + q_2 + \ldots + q_N$. One can interpret the parameter a as the highest consumer bid for the item of output. For each firm the cost of production is given by the linear relationship $C(q) = cq_i$, where $c < a$. Using this model, I will search for a reasonable structural presumption on mergers. The most sophisticated work on this question appears to be that of Nocke and Whinston (2010, 2022). My conclusions differ somewhat from theirs, and I will return later to the reason why.

With N firms of equal efficiencies the equilibrium market price and total output in the Cournot model are given by

$$p_N = \frac{a + Nc}{N + 1}$$

$$Q_N = \left(\frac{N}{N + 1}\right)\left(\frac{a - c}{b}\right)$$

Now consider the percent change in price resulting from a move from N firms to N-1, as a result of the merger of two firms. Thus, N is the pre-merger number of firms and N-1 is the post-merger number of firms. Letting p_N be the original pre-merger price and p_{N-1} be the post-merger price, we have

$$\frac{p_{N-1} - p_N}{p_N} = \frac{a - c}{N(a + Nc)} > 0$$

Thus, a merger unambiguously results in a price increase. This is equivalent to

$$\frac{p_{N-1} - p_N}{p_N} = \frac{1 - \theta}{N(1 + N\theta)}$$

where $\theta = c/a < 1$, is the ratio of the production cost to the maximum consumer bid, hereafter the "cost-bid ratio". As the number of firms increases, the sensitivity of the price effect of a merger is determined by

$$\frac{\partial \left(\frac{p_{N-1} - p_N}{p_N}\right)}{\partial N} = \frac{-(1 + \theta)(1 + 2N\theta)}{[N(1 + N\theta)]^2} < 0$$

Thus, the positive price effect of a merger diminishes as the number of firms increases and goes to zero as the number of firms grows large. Moreover, the price impact is concave up in the number of firms,

$$\frac{\partial^2 \left(\frac{p_{N-1} - p_N}{p_N}\right)}{\partial N^2} = \frac{2(1 + \theta)[1 + 3N\theta(1 + N\theta)]}{[N(1 + N\theta)]^3} > 0$$

so it decreases rapidly as the number of firms increases and tails off to zero.

The sensitivity of the merger-induced price increase to a change in the cost-bid ratio is determined by

$$\frac{\partial\left(\frac{p_{N-1}-p_N}{p_N}\right)}{\partial\theta} = \frac{-(1+N)}{N(1+N\theta)^2} < 0$$

Thus, as the consumer maximum bid *increases* relative to the unit supply cost – that is, as the cost-bid ratio *falls* – the merger-induced price increase is amplified. This makes sense because as the consumer maximum bid increases relative to the supply cost, the potential market surplus available to be appropriated by firms increases as well. Moreover, as the number of firms increases, the amplification effect of an increase in the bid relative to the cost diminishes to zero.

B. Structural Trigger for Merger Enforcement

Now, one way to approach the determination of an appropriate structural trigger on merger enforcement is to examine the expected price increases resulting from a merger. Suppose we let X represent the triggering price increase (it could, for example, be 5 percent, or 10 percent). We are therefore interested in the probability of a triggering price increase given a specific pre-merger number of firms and cost-bid ratio θ. The enforcement rule examines the effects of the merger whenever

$$\frac{p_{N-1}-p_N}{p_N} \geq X$$

or, equivalently,

$$\frac{1-\theta}{N(1+N\theta)} \geq X\ .$$

Rearranging terms, this is equivalent to examining the plausibility that the cost-bid ratio satisfies the following ceiling

$$\theta \leq \frac{1 - XN}{(1 + XN^2)}\,.$$

If this ceiling on the cost-bid ratio holds (or is likely to hold), the structural presumption in favor of merger enforcement is triggered by the "N to N-1 firms" merger, given a price increase rule of X percent. In short, a relatively low cost-bid ratio supports enforcement.

i. Seven Firms, Five Percent Price Increase Trigger

In light of the foregoing, let us consider a market with a pre-merger number of firms $N = 7$. This is a number between the "six firm rule" of the 2010 Guidelines and the "eight firm rule" of the 2023 Guidelines. Now, suppose the authority sets the triggering price increase at 5 percent (or above). This may seem to be overly protective, since a 5 percent price increase might go unnoticed by many consumers over a wide range of products. A 5 percent increase in the prices of most groceries, for example, would go unnoticed by the majority of consumers. However, a 5 percent increase in car prices probably would catch the attention of the car consumer. In any event, let's assume $X = .05$, representing the 5 percent price increase trigger.

Using the method of assessing mergers described above, the cost-bid ceiling that should be applied is

$$\theta \leq \frac{1 - (.05)7}{(1 + (.05)49)} \approx \frac{1}{5}$$

From this it follows that the merger should trigger enforcement if $\theta = c/a \leq 1/5$, or $c < a/5$. In other words, the unit supply cost must be less than 20 percent of the consumer's maximum bid. If unit cost is, contrariwise, greater than 20 percent of the consumer's maximum bid, then the merger enforcement agency should take no action against a merger reducing the number of firms from 7 to 6. As an empirical matter, it is certainly possible that cost is less than 20 percent of the maximum consumer bid, but it is probably not the norm across products in most developed market economies. Such a relationship may be true of life-saving medicines, or other goods verging on necessities, but probably not true for the vast majority of commodities. Moreover, in most developed economies one finds substitutes to the vast majority of products, even to those that might be considered necessities. Substitutes put ceilings on the maximum consumer bid, because no consumer is going to pay a nearly infinite amount for access to a particular good, when the consumer could procure a substitute for a more modest price.

Perhaps the most persuasive empirical evidence that low ceiling values for the cost-bid ratio, such as $\theta \leq 1/5$, are empirically implausible is found by testing their consistency with the empirical evidence on price-cost margins. The price-cost margin commonly studied in antitrust is $L = \frac{p_N - c}{p_N}$, often referred to as the Lerner Index. Using the terms of this model,

$$L = \frac{p_N - c}{p_N} = \frac{1 - \theta}{(1 + N\theta)}.$$

If the number of firms is 7 and the cost-bid ratio is no greater than 1/5, then the foregoing expression implies that the price-cost margin must be at least 33 percent. Such a high estimate for the price-cost margin is not impossible, but it is inconsistent with existing empirical studies of the Cournot model (Greenfield, Kreisle, and Williams, 2015; Aiginger, 1996). The maximum estimates of the price-cost margin in the empirical studies is on the order of 18 percent.

Approaching this question from a different direction, note that one can rearrange terms to show that the cost-bid ratio is related to the price-cost margin as follows

$$\theta = \frac{1 - L}{1 + NL}$$

Now, if the number of firms pre-merger is 7, and the maximum empirical estimate for the price-cost margin L is 18 percent, then the implied minimum value for the cost-bid ratio is 36 percent. This is substantially greater than the 20 percent ceiling on the cost-bid ratio values derived from the Cournot model under the assumption of a 5 percent price increase enforcement trigger. In short, the empirical evidence does not support a policy of enforcing the merger prohibition under a 5 percent trigger in the case of a 7 to 6 merger.

ii. Seven Firms, Ten Percent Price Increase Trigger

Suppose, however, the enforcement agency is not so overly protective of consumers and sets the triggering price increase at 10 percent. This is still quite protective of consumers, especially in places like grocery stores. Using the 10 percent price increase rule, $X = .10$, and

$$\theta \leq \frac{1-(.10)7}{(1+(.10)49)} = \frac{1}{20}$$

From this it follows that the merger considered here should trigger enforcement only if $\theta = c/a \leq 1/20$, or $c < a/20$. In other words, for enforcement to be reasonable, the unit supply cost must be less than 5 percent of the consumers maximum bid. This seems to be implausibly low as an empirical matter. Thus, for a still protective but somewhat more practical trigger of a 10 percent price increase, the enforcement authority should not take action against a merger that reduces the number of firms from 7 to 6. This argument supports the use of the "six firm rule", with corresponding *HHI* of 2,500 instead of the "eight firm rule", with corresponding *HHI* of 1,800.

Now, consider the case of 5 firms, pre-merger. Let the price trigger increase be ten percent again, $X = .10$. Following the same argument as before, enforcement should be triggered by the merger (from 5 to 4 firms) if

$$\theta \leq \frac{1-(.05)5}{(1+(.05)25)} = \frac{1}{7}$$

From this it follows that this hypothetical 5 to 4 merger should trigger enforcement only if $\theta = c/a \leq 1/7$, or $c < a/7$. In other words, if the unit supply cost is less than 14 percent of the maximum consumer bid, then the 5-to-4 merger should trigger enforcement, given a 10 percent price increase rule. However, this cost to bid ratio seems, like the previous example, to be inordinately low, and thus appears not to justify enforcement given a 5-to-4 merger and a 10 percent price rule.

Suppose, instead, that the price increase trigger is 5 percent, so that $X = .05$. Now, following the same argument as above, the 5-to-4 merger should trigger enforcement only if $\theta = c/a \leq 1/3$, or $c < a/3$. In other words, if the unit cost is less than one third of the maximum consumer bid, then the 5-to-4 merger should trigger enforcement under a price increase rule of 5 percent. I find this ratio empirically plausible. Thus, if the price increase rule is 5 percent, and the number of firms pre-merger is 5, then a rule subjecting such mergers to an enforcement presumption seems economically reasonable. This argument, based on the most protective standard of a five percent price rule, provides some support to the "six firm rule", or the structural presumption consisting of an *HHI* threshold of 2,500.

C. HHI-based Structural Presumption

Now, let us return to the *HHI* discussion of the first part of this paper. Earlier I considered the *HHI* thresholds of 1,800 and 2,500, with the former suggesting an "eight firm rule" and the latter suggesting a "six firm rule". Suppose, now, we consider raising the *HHI* threshold to 3,200. That is, let HHI_T = 3,200. This structural *HHI* trigger is equivalent to the following market share rule

$$s \geq \sqrt{\frac{HHI_T}{N+2}} = \sqrt{\frac{3{,}200}{N+2}}$$

where, because market shares are the same, the actual market share is 100/*N*.

i. Merger Enforcement with *HHI* = 3,200

Let's first consider a market consisting of only 4 firms (*N* = 4) pre-merger. Given the *HHI* threshold of 3,200, the market share necessary to justify the *HHI* based presumption, based on the immediately forgoing inequality, is 23.09 percent. However, the actual market share of each firm is 25 percent in this case. Thus, since the actual market share exceeds the minimum necessary to justify enforcement under the *HHI* = 3,200 threshold, merger enforcement is justified by the *HHI* threshold. Thus, under the structural threshold of 3,200 *HHI*, the proposed 4-to-3 merger is an appropriate target for enforcement.

Let us now consider whether this answer changes when there are 5 firms pre-merger (*N* = 5). Thus, I am now considering a 5-to-4 merger under an *HHI* threshold of 3,200. The structural trigger, as evaluated, is

$$s \geq \sqrt{\frac{3{,}200}{7}} = 21.4\,,$$

and the actual market share of each firm in this scenario is 20 percent. Thus, since the actual market share falls below the minimum necessary to trigger enforcement under the 3,200 *HHI* threshold, enforcement is not justified by the structural presumption. This suggests the appropriateness of a “five firm rule”: to evade enforcement a market of equal-size firms must have at least five firms.

ii. Reconciliation of Two Approaches

The upshot of these two cases involving the *HHI* structural trigger is that enforcement is justified, under the *HHI* threshold of 3,200, in the case of the 4-to-3 merger but only ambiguously so in the case of the 5-to-4 merger. In other words, the *HHI* threshold of 3,200 implies a “five firm rule”: *to evade enforcement a market of equal-size firms should have at least five firms*. *Similarly, the Cournot approach suggests the same standard: to evade enforcement, the market of equal-size firms should have at least five firms*. To sum up:

Both the HHI approach and the bare-bones Cournot approach support the use of HHI = 3,200 as the appropriate numerical trigger for merger enforcement.

To be sure, one could argue that the price increase trigger in this analysis, although consistent with the modern enforcement approach, is incomplete because it leaves such considerations as the greater possibility of collusion or the accumulation of political power resulting from a merger that reduces the number of firms in a market from N to N-1. There are several responses to this assertion. First, most modern merger enforcement actions are predicated specifically on a projected price increase of the sort examined here (see, e.g., *FTC v. Staples*). Second, if collusion results from a merger, leading to a market price above the Cournot equilibrium, then Section 1 of the Sherman Act is unquestionably applicable as a separate mechanism to punish the colluding parties. There is no immediately clear basis for viewing Section 7 of the Clayton Act as a substitute for Section 1 of the Sherman Act. Third, on the question of political power, the causal relation is even less clear than in the case of collusion. Shahshahani and McCarty (2023) find no statistically significant correlation between market concentration and the accumulation of political influence through lobbying.

V. Optimality of Merger Enforcement

The foregoing arguments took as given the desirability of using various thresholds or triggers for enforcement. I did not ask whether the stipulated thresholds were justifiable on welfare grounds. In this part, I will consider that question.

A. Welfare Effects of Mergers in Bare-Bones Cournot Model

Let us return the Cournot model set out in the previous part. Consumer welfare is given by

$$CS_N = \frac{1}{2}\left(\frac{N}{N+1}\right)^2 \frac{(a-c)^2}{b}$$

and the percentage change in consumer welfare given a merger reducing the number of firms from *N* to *N*-1 is (after some simplification),

$$\frac{CS_{N-1} - CS_N}{CS_N} = \frac{1}{N^4}(1 - 2N^2) < 0$$

In other words, the change in the consumer surplus is definitely negative resulting from a merger shrinking the number of firms in a market from *N* to *N*-1. Note, however, that as the number of firms approaches infinity, the percentage change approaches zero. Obviously, as the number of firms approaches the competitive endpoint of the spectrum, the effect of a merger on consumer surplus vanishes.

Take the case of a merger from 7 firms to 6 firms, as examined earlier in this paper. The change in consumer surplus is

$$\frac{CS_6 - CS_7}{CS_7} = \frac{1}{7^4}[1 - (2)7^2] = -.04\ ,$$

indicating a 4 percent decline in consumer welfare resulting from 7 to 6 firm merger.

Now consider the effect of the merger on corporate profits. The total profit of firms in the market under the Cournot framework is

$$\pi_N = \frac{N}{(N+1)^2}\frac{(a-c)^2}{b}$$

From this, it follows that the effect on corporate profits of a merger that causes a reduction in the number of firms from *N* to *N*-1 is

$$\frac{\pi_{N-1} - \pi_N}{\pi_N} = \frac{1}{N^3}(N^2 - N - 1) > 0$$

Thus, firm profits always rise as the result of a merger. However, note again, as the number of firms approaches infinity, the boost to corporate profits from the merger become essentially zero. The reason is that as *N* approaches infinity, the market becomes competitive, so profits are driven to zero (that is, to a level just sufficient to cover economic costs).

Now take the specific case of a merger from 7 firms to 6 firms. The percentage change in profits is given by

$$\frac{\pi_6 - \pi_7}{\pi_7} = \frac{1}{7^3}[7^2 - 8] = \ .12$$

The percentage in profits is a positive 12 percent, resulting from a merger driving the market from 7 firms to 6. Right away, this seems to be a substantial boost in profits, and should ordinarily attract scrutiny from antitrust enforcement agents.

The last thing to consider is total welfare. Total welfare is the sum of consumer surplus and producer surplus (or profit). Thus, for a market with *N* firms:

$$W_N = CS_N + \ \pi_N$$

And the change in welfare resulting from a merger that reduces the number of firms in the market from *N* to *N*-1 is

$$W_{N-1} - W_N = \left(\frac{CS_{N-1} - CS_N}{CS_N}\right) CS_N + \left(\frac{\pi_{N-1} - \pi_N}{\pi_N}\right) \pi_N$$

So the percentage change in welfare resulting from the merger is

$$\frac{W_{N-1} - W_N}{W_N} = \frac{\left(\frac{CS_{N-1} - CS_N}{CS_N}\right) CS_N + \left(\frac{\pi_{N-1} - \pi_N}{\pi_N}\right) \pi_N}{CS_N + \pi_N}$$

Substituting terms and simplifying just a bit,

$$\frac{W_{N-1} - W_N}{W_N} = \frac{\left(\frac{1}{N^4}(1 - 2N^2)\right)\left(\frac{1}{2}\left(\frac{N}{N+1}\right)^2\right) + \left(\frac{1}{N^3}(N^2 - N - 1)\right)\left(\frac{N}{(N+1)^2}\right)}{\left(\frac{1}{2}\left(\frac{N}{N+1}\right)^2\right) + \left(\frac{N}{(N+1)^2}\right)}$$

This expression, capturing the change in total welfare from the merger, simplifies to

$$\frac{W_{N-1} - W_N}{W_N} = \frac{-(1 + 2N)}{N^3(2 + N)} < 0$$

Thus, the total welfare effect of the merger is, unsurprisingly, negative. As the number of firms approaches infinity, the total welfare effect goes to zero. However, notice also that the total welfare effect becomes small very quickly as the number of firms increases, as the following graph indicates visually.

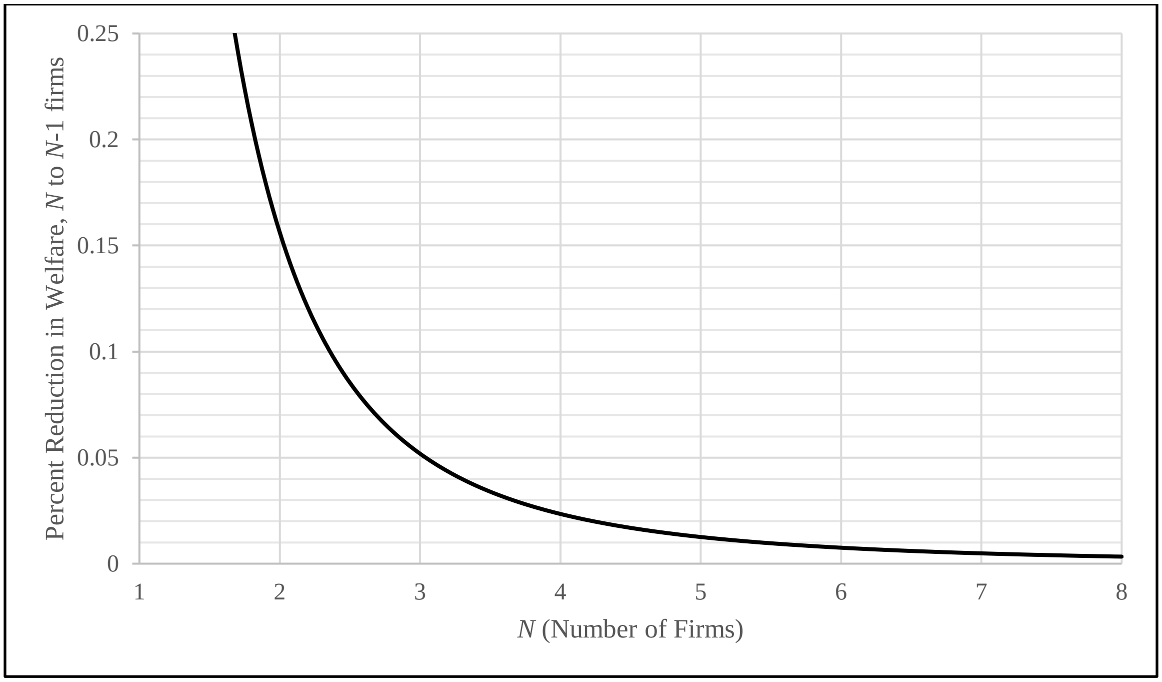

Figure 1: Effect of Merger on Welfare

The change in welfare resulting from a merger reducing the number of firms from N to N-1 can also be represented as

$$\frac{W_{N-1} - W_N}{W_N} = \lambda\left(\frac{1}{N^4}(1 - 2N^2)\right) + (1 - \lambda)\left(\frac{1}{N^3}(N^2 - N - 1)\right)$$

where

$$\lambda = \frac{N}{(N + 2)}$$

represents the share of consumer surplus in total surplus. In this formulation, we see that the change in welfare reflects a weighted average of the consumer welfare effect of the merger, weighted by the parameter λ, and the profitability effect of the merger, weighted by $1-\lambda$.[16] The first component of that weighted average, the consumer welfare effect, is always negative. The second component, the profitability effect, is always positive. As the number of firms approaches infinity, the share of consumer surplus in total surplus approaches one. This is because economic profits go to zero as the number of firms increases. As the number of firms increases, more weight goes on the consumer welfare component, which is the negative component, and at the same time the consumer welfare component approaches zero.

Now, let's return to the 7 to 6 merger examined earlier. We have already calculated the consumer welfare effect (the percentage decline in consumer welfare, which is -.04. We have also calculated the profitability effect, which is .12. The total welfare effect is therefore

$$\frac{W_6 - W_7}{W_7} = \lambda(-.04) + (1-\lambda)(.12)$$

And since $\lambda = 7/(7+2) = 7/9$, the total welfare effect is

$$\frac{W_6 - W_7}{W_7} = \frac{7}{9}(-.04) + \frac{2}{9}(.12) = -.0048$$

Thus, the total welfare effect of a 7 to 6 merger is negative and equal to about one half of one percent.

In the table below, I consider a larger number of merger scenarios, ranging from a 2-to-1 firms merger (merger from duopoly to monopoly) to a 10-9 firms merger. For the most harmful merger, the merger to monopoly (2 to 1), the table shows that the total welfare reduction is roughly 16 percent. This is a substantial percentage reduction in welfare. However, one should keep in mind that this model does not allow for efficiencies, such as supply-cost reductions, resulting from the merger. If the model were to allow for such supply-side efficiencies, it might be possible for the efficiencies to exceed the consumer welfare loss if the elasticity of demand is sufficiently high.[17] The second "worst" merger, 3 to 2 firms, imposes a percentage welfare reduction of only 5 percent. With mergers involving a 5 to 4 reduction in the number of firms, or

[16] One could easily modify this framework by introducing a general weighting scheme where $\lambda = N/(N+K)$. In this general weighting scheme, the contributions of consumer welfare and producer welfare can be weighted differently in measuring the total welfare impact. On the basis for such a weighting scheme, see Hylton (2010).

[17] DePrano and Nugent, 1969; Williamson, 1968, Hylton, 2003, at 330-32.

even higher starting numbers, the percentage welfare reduction is on the order of 1 percent of less. These welfare reduction estimates provide further support for the recommendation of the previous part that merger enforcement, if it must exist at all, begin at the 5 to 4 merger level, which is consistent with setting the *HHI* threshold at 3,200.

N to N-1 Merger in Cournot Model	*Percentage Welfare Reduction*
2 to 1 firms	.1562
3 to 2	.0518
4 to 3	.0234
5 to 4	.0126
6 to 5	.0075
7 to 6	.0048
8 to 7	.0033
9 to 8	.0024
10 to 9	.0017

Table 1: Welfare Reductions due to Merger

B. Economic Importance and Potential Biases

Finding, as we have here, that the total welfare effect of a 7 to 6 merger is about a one half of one percent reduction in market-specific welfare raises some questions. First, is one half of one percent a substantial effect? Second, is this estimate necessarily biased either up or down?

Consider the bias question first. The model we have examined is the Cournot framework. One way in which this model is biased toward an underestimate of the welfare impact is that it assumes, for simplicity, equal-size, equally-efficient firms. If firms are of different sizes, or different efficiency levels, the merger between a large firm and another one of average size might produce a greater impact on consumer welfare (Reisinger and Zenger, 2022). However, it also is the case that such a merger might have an efficiency effect, and if the effect is strong enough, the efficiency effect could offset the harm to consumer welfare (Reisinger and Zenger, 2022). Thus, it is unclear, on immediate reflection, that the assumption of equal-sized, equally-efficient firms imparts a definite underestimation bias to this analysis. Indeed, if efficiencies are associated with mergers – a plausible association that has been entirely ruled out by assumption in the simple model explored here – then obviously the negative welfare impacts of mergers could be lessened or reversed.

Another bias, in the direction of overestimation, is the reliance on Cournot competition, without taking into account the possibility of direct price competition, as in the Bertrand model. If the actual market competition is some mixture of Cournot and Bertrand, with periods of Cournot competition interrupted by periods of Bertrand price competition, then the actual welfare effects of merging suggested here might overstate the negative impact of mergers.

Is the rather small effect found in this simulation of 7 to 6 merger economically important nonetheless? Suppose the effect found here, one half of one percent, applies to the entire goods market of the U.S. economy? The total U.S. GDP in goods in 2022 was $6 trillion.[18] This suggests that the potential welfare gain of preventing 7-to-6 mergers in the U.S. economy is bounded above by roughly $30 billion dollars in a year. This seems to be a rather paltry result from merger enforcement. The efficiency estimates in some merger enforcement actions have been as much as $1 billion or more – for example, the merging parties in *FTC v. Staples* offered an estimate to the court of $5 billion.[19] Of course, the $30 billion figure is just a back-of-the-envelope estimate, and it may fail to include important features generating a larger negative welfare impact from mergers. However, if this simple back-of-the-envelope calculation is nearly

[18] Bureau of Economic Analysis. Gross Domestic Product, Fourth Quarter and Year 2022 (Third Estimate), GDP by Industry, and Corporate Profits. Available at: https://www.bea.gov/sites/default/files/2023-03/gdp4q22_3rd_0.pdf.
[19] FTC v. Staples, 970 F. Supp. at 1089.

accurate, it suggests that the U.S. economy may derive a rather small benefit from merger enforcement. The ultimate social value of this benefit is further diminished by the prospect that if the parties were permitted to merge, and then immediately engaged in anticompetitive conduct, an enforcement action could then be brought against the merged entity. And antitrust law does not punish mere size, so the growth of a large firm internally, or through the absorption of the assets of failed businesses is always available as a perfectly legal route that would result in the same potential diminution of welfare as might result from the 7-to-6-firms merger.

Another critique of my approach to the welfare question is to argue that one should not examine total welfare; that one should examine instead consumer surplus, and completely ignore firm profits. This critique is implicit in the work of Whinston (Nocke and Whinston, 2010, 2022), which relies on consumer welfare alone as the standard to judge mergers. If I were to focus exclusively on consumer welfare, my results would be less favorable to mergers. Indeed, the consumer welfare effect is always negative, unless there are efficiency gains resulting from the merger. Since I have ruled out efficiency gains in this analysis, there would appear to be virtually no welfare basis for approving mergers, unless the welfare effect becomes imperceptible – which may be a valid conclusion once one considers 11-to-10 firm mergers and above.

Return to the specific case. If I restrict the analysis to a consideration of the consumer welfare effect of a 7-to-6 merger, I find that the impact is negative 4 percent on consumer welfare. This is considerably larger (in absolute value) than negative total welfare effect of one half of one percent. Total corporate profits in 2022 amounted to roughly $3 trillion.[20] The consumer welfare loss is a transfer to corporate profits. Since corporate profits increase from a 7-to-6 merger by 12 percent, then the consumer welfare loss from the 7-to-6 merger might be approximated by the transfer. Corporate profits, in 2022, in sectors that might be subject to merger enforcement probably do not exceed $1.5 trillion,[21] and 12 percent of that sum amounts to $180 billion. This is a much larger sum than the roughly $30 billion total welfare impact estimate. Of course, as a share of U.S. GDP or even of total government spending, it is still quite small. The sum is probably entirely swamped by the impact of inflationary government-spending policies at the federal level, and also by consensus estimates of "waste" in annual federal government spending. Indeed, if a member of Congress today were to propose legislation to save taxpayers the sum of $30 billion, or even $180 billion, he would probably have great difficulty procuring the interest of other legislators.

C. Cognizable Welfare and Merger Enforcement

[20] https://www.statista.com/statistics/222122/us-corporate-profits-by-industry/.

[21] *Id* (after subtracting out industries such as banking and utilities not subject to federal merger enforcement).

One question raised by the argument that the enforcement agent should focus entirely on consumer welfare, and not total welfare, is that raised by Oliver Williamson (1968): why limit one's analysis to consumer welfare, to the exclusion of total welfare? Williamson argued that such an approach tends toward economic irrationality. The same argument applies here. An analysis of the gains from merger enforcement should take into consideration the effect of enforcement on total welfare, not just a single component of that welfare. An analysis that focuses solely on the consumer welfare impact of mergers implicitly puts a zero weight on supply-side efficiency gains. The basis for putting a zero weight on such gains has never been made clear, and Williamson effectively criticized such an approach. Moreover, given that share ownership is widespread in the U.S. economy, gains to profits and gains to consumers should be treated equally in the analysis of the welfare impact of merger enforcement. A transfer of $1 in surplus from consumers to producers is actually a transfer of $1 from one consumer to another consumer.

On the matter of the appropriate measure of "relevant surplus" (consumer surplus, or total surplus), consider the following thought experiment. Suppose two firms propose a merger, of the sort examined here, reducing the number of firms from 7 to 6 in a particular market. The merger would reduce consumer welfare by 4 percent in that market. On the other hand, the firms issue a legally enforceable promise to donate almost all of the merger-induced increase in profits to addressing the problem of homelessness – or supporting the care of orphans, or providing shelter to victims of spousal abuse. Let us suppose, further, that the additional financial support would be substantial and make a material difference in the welfare of the targeted population of the disadvantaged. Would the antitrust enforcement agencies still consider it appropriate to block the merger? The consumer welfare effect would be negative 4 percent, while the profitability impact would be positive 12 percent. Even though the overall welfare effect is negative, on the order of one half of one percent, the financial support provided to a disadvantaged subpopulation might be sufficient to constitute a highly beneficial and valuable positive externality from the merger. Should this positive externality be completely ignored in government policy? To do so would appear to be economically irrational.

The basic lesson from these considerations is that it is not at all clear that under the existing Guidelines (eight firm rule), or even under the 2010 Guidelines (six firm rule), merger enforcement is socially desirable, if judged on a simple operational welfare standard. As a statistical matter, most of the enforcement effect will be at the margin of the scope of enforcement, where the welfare gains from merger enforcement are miniscule.[22] The social

[22] Admittedly, the actual cases that the FTC and DOJ have litigated over the last two decades have typically involved HHI levels far in excess of the structural triggers (Rose and Shapiro, 2022). However, with respect to proposed mergers falling below the structural triggers there is also the deterrent threat of enforcement to consider, the mergers that are deterred by actual enforcement, the mergers that are deterred by investigation and by the threat

benefits of merger enforcement under the existing Guidelines seem to be small – even though the skeletal analysis here adopts all of the assumptions one could make in favor of rigorous anti-merger law enforcement. The costs of merger law enforcement, on the other hand, are probably on the same order of magnitude as the social benefits of enforcement, if not larger. The costs include not only the costs of staffing and operating the government enforcement agencies, but also the litigation costs of parties, the costs of judicial time and resources, the opportunity costs of poorly prioritized law enforcement, and the "chilling effect" of merger enforcement on efficient mergers and startups. It seems probable that society's welfare would be enhanced, relative to the current enforcement regime, if merger enforcement were abandoned.

To be sure, there may be a level of *HHI* threshold at which merger enforcement is welfare enhancing. The table of welfare effects, Table 1, suggests that a rule leading to enforcement actions only for 3-to-2 and 2-to-1 mergers would exclude from enforcement only those mergers whose welfare impact is less than 5 percent. Suppose, then, mergers imposing welfare losses under 5 percent are excluded from enforcement. Under this approach, the appropriate HHI can be derived by using the relationship

$$\frac{100}{3} \geq \sqrt{\frac{HHI_T}{5}},$$

from which it follows that if the *HHI* threshold should be set at $HHI_T = 5{,}400$. Similarly, suppose the welfare effect cutoff is 2 percent instead of 5 percent. The corresponding *HHI* threshold, as noted earlier, would be $HHI_T = 3{,}200$.

In a previous article in this journal (Hylton, 2011), I made assumptions less favorable to merger enforcement. Specifically, I assumed that the process of entry and exit of firms works in the manner described in virtually all microeconomics textbooks – that entry of firms occurs in response to positive economic profits and that exit of firms occurs in response to negative economic profits. With this straightforward assumption, I showed that the basic framework of microeconomics implies that merger enforcement is unlikely to provide a substantial benefit on net to society, and that what seems to be a benefit is mostly a transfer from a future generation of consumers to a current generation of consumers. Here I have attempted to adopt much more favorable assumptions toward the activity of merger enforcement.

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of investigation, with associated burdens, and the mergers deterred by the prospect of enforcement after consummation.

VI. Some Remaining Legal Concerns

If it seems inappropriate to question the social desirability of merger enforcement, what I have to say in this part is even less appropriate. As you look closely at the tendency, reflected in the new Guidelines, for enforcement agencies to seek to maximize both their discretion and their ability to dominate courts, some of the earliest objections to extending the antitrust laws to merger activity appear to take on a new light. Justices White and Holmes, in *Northern Securities*,[23] set out in their dissents numerous concerns they had with the majority opinion, a decision in which held – in essence – that the Sherman Act prohibited mergers between directly competing large firms. White was concerned mostly with whether the Sherman Act could be interpreted to support the Court's decision, given that the decision could not be reconciled, in his view, with the interstate commerce requirement of the statute and the Constitution's equivalent limitation on Congress's power.[24] Holmes agreed with White, and wrote separately to express his concerns that the Court majority's interpretation of the Sherman Act violated long-standing concepts of proximate cause in the common law.[25]

The combined actions of the FTC and DOJ, in rather hastily modifying the Merger Guidelines with the transparent and primary purpose to enhance enforcement discretion, should provoke some courts to reexamine the constitutional and general legal concerns raised by the dissenting justices in *Northern Securities*. The purpose of the Merger Guidelines is to provide notice and to constrain the enforcement agencies. If the agencies choose instead to dilute the notice provided and to weaken the constraints – again for the sole purpose of gaining additional discretion over enforcement – then it would seem appropriate for courts to closely examine the justifications for such a move. Moreover, if the agencies' actions appear to suggest a deeper tendency of enforcement agencies to act in such a manner, then it would be appropriate for courts to reexamine the structure of the enforcement agencies and the constitutional and statutory basis for their powers in the area of merger enforcement.[26]

Consider, first, the concerns raised by White in *Northern Securities*. The Constitution limits Congress's power to regulate, through the Interstate Commerce Clause. The Sherman Act itself refers to conspiracy and monopolization efforts that affect trade among the states. A law

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[23] Northern Securities Co. v. United States, 193 U.S. 197 (1904).

[24] In White's dissent in *Northern Securities*, 193 U.S. at 377, White denounces the majority decision because "the very definition of the power to regulate commerce . . . excludes the conception that it extends to stock ownership."

[25] Holmes's dissent, 193 U.S. at 410, asserts partnerships are not "contract or combination in restraint of trade" because the partnership lacks requisite proximity to that illegal act.

[26] For a brief discussion of the constitutional infirmities of the federal antitrust statutes, see Hylton, Antitrust Law, at 52-55. The extent to which the statutory framework is constitutional in application depends on the willingness of enforcers to play by long-established norms. However, a decision by an enforcement agency to deviate from such norms should immediately invite a closer scrutiny by the courts of the constitutional and statutory basis for such a deviation.

blocking mergers does not appear, in the first instance, to regulate commerce – the actual trade in goods and services – among the states. The anti-merger law directly and primarily affects the ownership of assets, within the states of domicile of the merging corporations. Now, one could certainly argue that the ownership of assets affects interstate commerce, and that therefore the power to regulate interstate commerce implies the power to control the ownership of assets within a state. But this argument goes too far. This becomes apparent when you consider the many routes through which the ownership of assets within a state may impact interstate commerce. The ownership of land within a state can influence interstate commerce. The exclusive control over human capital arranged through long-term employment contracts can influence interstate commerce. If the power to regulate interstate commerce implies the power to regulate the ownership of assets within a state that might influence interstate commerce, then the power of Congress to regulate is without limit, and there is no area of state law that cannot be overridden by federal law.

Surely, the argument that any pattern of ownership of assets, within a state, that might have an impact on interstate commerce may be directly regulated through federal law posits such an expansive view of federal regulatory power that it cannot be reconciled with the Constitution. Yet, this is precisely the position that is reflected in modern merger regulation. It is difficult to see how to draw the line between its application in the merger context, and its application to a proposal by an individual to purchase additional real property, where such a purchase might arguably impact interstate commerce.

Holmes agreed with these concerns raised by White and added on a few other concerns, mainly having to do with causation. In Holmes's view, the mere phenomenon of a specific pattern in the ownership of assets did not immediately imply a harmful impact on interstate commerce. In other words, the two notions were not so closely associated that the existence of one necessarily implied the existence of the other, and that a basic principle of causation in the law would require a closer nexus to justify the regulation of ownership patterns under a statute that aimed to regulate actual interstate commerce. By the same reasoning, suggested Holmes, the antitrust enforcer could oust a particular shareholder from the meeting of a corporate board on the theory that his presence could impact interstate commerce. Holmes perhaps had in mind the possibility that between the aggregation of stock ownership incident to a merger, and the imposition of an actual harm to interstate commerce, there might intervene natural counteracting or disruptive events, the entry of new firms, the outbreak of Bertrand competition, and numerous other factors that might sever the chain of causation between the purchase of stock and the imposition of any particular anticipated effect on interstate commerce. Because of the possibility of so many intervening causal factors, Holmes would not have read the Sherman Act in a manner that authorizes antitrust enforcers to regulate the ownership of shares in corporations. His argument hints at a broader reach: that it would be unreasonable to assert a constitutional justification for federal regulation of such an intrusive and potentially expansive nature.

In addition to the causation problem, the antitrust laws have never held the mere imposition of harm on consumers in interstate commerce through the raising of price to be unlawful. The Sherman Act and the derivative federal antitrust statutes do not regulate prices. Neither do the federal antitrust statutes regulate monopoly status per se, the antecedent to monopoly pricing. The basis for regulating merger activity is to prevent the attainment of monopoly power. But monopoly power is not unlawful. Hence, the statutory basis for federal merger regulation consists of making unlawful an ordinarily lawful act – specifically, the acquisition of property through fair means – on the theory that the act may result in the attainment of a status (monopoly) that is not itself unlawful and that leads necessarily, as a consequence of the status, to actions (price and output decisions) that are not in themselves unlawful under any existing federal laws.[27] The cobbling together of several lawful acts to make an unlawful or criminal act has a basis in the common law only in the context of an attempt to commit a crime, such as an attempt to commit murder. However, under the law on attempts, the prosecution has a burden of proving a specific intent to commit the crime and a sufficiently high risk of success in the commission. None of these constraints observed in the common law of attempts applies to federal merger regulation. This suggests that Clayton Act Section 7 is actually a species of attempt statute, stripped of any requirement on the part of the enforcement agent or prosecutor to proffer evidence of an intent to harm or of a dangerous probability of success. If such an approach were adopted generally in the law of attempts, it would enable prosecutors to wield the criminal law in an indiscriminate manner. Although the Clayton Act is not a criminal statute, the only features of the modern law that constrain a federal enforcement agency from bringing a criminal action under the Sherman Act against a merger are rather nebulous statements by the Supreme Court and long-standing policy of the agencies.[28] But the new Merger Guidelines signal with unusual clarity a willingness on the part of the enforcement agencies to reverse themselves on long-standing policy.

If the federal antitrust enforcement agencies decide that there is no point in offering the Merger Guidelines as actual guidance to firms or as constraints on their own enforcement discretion, then it may be appropriate for courts to reexamine the arguments of Holmes and White in *Northern Securities*.

VII. Conclusion

[27] The Supreme Court warned against reading the antitrust laws to cobble together lawful acts to create a new unlawful act in Pacific Bell Telephone Co. v. linkLine Communications, Inc., 555 U.S. 438 (2009) (no cobbling together a Sherman Act Section 2 violation, by a vertically-integrated dominant firm, out of a combination of high pricing of inputs and low pricing of outputs).

[28] See, e.g., Hylton, Antitrust Law, at 54-55.

The new DOJ and FTC Merger Guidelines represent a significant step toward undermining the entire purpose of enforcement guidelines, by diluting all of the provisions that seemed to constrain the agencies and enhancing the discretionary enforcement power under the remaining provisions. The apparent motivation of the new revision is to enhance agency discretion. The new Guidelines, in combination with burdensome new reporting requirements, have the effect of coupling greater enforcement uncertainty with a higher cost hurdle for merging parties to mount. The new Guidelines do not appear to implement scientifically rigorous improvements in enforcement policy, which was the goal of previous revisionary efforts. The entire approach of the enforcement agencies in the new Guidelines invites a serious reconsideration of the constitutional infirmity of modern federal merger enforcement.

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